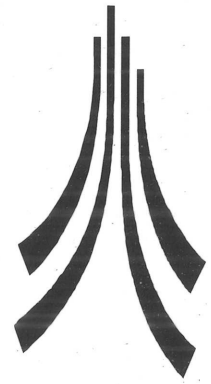


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December 1998

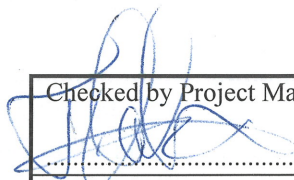

**GREAT HILL WIND FARM SITE
NEAR CALDERBROOK
GREATER MANCHESTER**

ARCHAEOLOGICAL ASSESSMENT REPORT

Great Hill Windfarm
Near Calderbrook
Greater Manchester

Archaeological Assessment Report

Report no 1997-98/ 034/ AUA 7856

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SUMMARY

A desk top study and identification survey was carried out by Lancaster University Archaeological Unit ahead of the proposed construction of a wind farm at Great Hill, near Calderbrook, Greater Manchester, by Renewable Energy Systems (SD 915 197 to 936 194).

The purpose of the assessment was to assemble desk-based evidence for the archaeological and historical potential of the site, and to test this by identification survey to inform a Public Inquiry. This work assessed the nature and extent of the archaeological resource affected by the proposed development from both documentary sources and surviving surface traces.

The Greater Manchester Sites and Monuments Records refers to 13 sites, findspots, and buildings lying within the area of the development proposal, and around 15 from immediately adjacent areas which are relevant for background information. Many of these are collections of Mesolithic and later flint artefacts, the largest collection containing over 200 items. No features of prehistoric origin were identified during the identification survey, but this may have been as a result of adverse weather conditions in the days prior to the survey.

The desk-based study established that the common pasture of upland region had been established and the forests cleared from the early sixteenth century. Coal mining is also evident in the documentary sources, potentially from the seventeenth century, although the majority of the mining in the environs of the study dates from the early to mid nineteenth century.

The identification survey identified the physical remains of 33 mine shafts in the study area which are not shown on the 1851 Ordnance Survey map and are thought to predate it. These remains are consistent with low intensity coal extraction.

Limited numbers of agricultural sites were also identified over the extent of the study area or near the line of the access route to the wind farm site. There were seven buildings recorded during the survey. These buildings ranged in size from the largest, Forest Lodge farm, a six-celled building with a cellar at the centre to a single celled bothy (**Site 77**).

The proposed turbine configuration will have only a limited impact upon the identified resource. Turbine 3 will be near lithic scatter Site G7, Turbine 8 is in the locality of shaft G46 and Turbine 9 is in the vicinity of shaft G49. There are also four options for the layout of the access tracks (routes 1-4), of which the most probable is Option 1. Route option 2C will extend past relict farm G64/65 and will have an adverse impact upon the associated field system. Route option 2D extends through the reported areas of lithic scatters G60 and G63, and will potentially impact this or associated lithic sites.

It is recommended that turbine 3 be moved by up to 30m to the west of its present location to enable it to be clear of the reported lithic site G7. It is also recommended that the spatial separation of turbine 5 from lithic scatters G4, G8 and G12 be increased by up to 50m to reduce the risk of impact upon the area of prehistoric activity. However, by virtue of the uncertainty of below ground archaeological survival, this will not guarantee the preservation of the archaeological resource. The area has a clear background of Prehistoric occupation and not all buried sites of such date will be known and recorded. Where it is impossible to avoid the disturbance of archaeological sites it is recommended that the sites be subject to mitigation survey. The sub-surface potential in the area of the turbine sites should be evaluated by test pitting, particularly to assess the survival of lithic sites. It is also recommended that an archaeological watching brief be undertaken during the topsoil strip for the construction of the turbines, roads and power cables.

ACKNOWLEDGEMENTS

Thanks go to Norman Redhead of Greater Manchester Archaeological Unit, for Sites and Monuments Record information, and to Peter Iles of Lancashire County Archaeology Service, for access to aerial photography collections. Helen Gomersall and Stuart Wrathmell at West Yorkshire Archaeology Service, Chris Chandler of the National Monuments Record, Swindon (archaeology) and the staff of the aerial photography section, Debbie Walker and Andrew Moore of Rochdale Metropolitan Borough Council Museums Service, Keith Burrows of Rawtenstall Library, Sandra Cruise of Rossendale Museum, and Alan Davis of Salford Museum of Mining are also thanked for searching the catalogues to their collections on LUAU's behalf. Thanks are also due to David Clarke, Mining Records Manager, the Coal Authority, Burton-on-Trent, Staffordshire for a list of potentially relevant plans of abandoned mines, and to David Grayson, chairman of Littleborough Historical and Archaeological Society, for a copy of his report on the Far Ends Clough excavation, and discussions.

For their help in locating cartographic and primary sources, Ken Harrison, map and geography librarian at Lancaster University Library, and the staff of Lancashire Record Office, and Rochdale Local Studies Library are thanked.

Thanks are also due to the landowners and tenants who permitted access to their land.

This documentary research was undertaken by Nigel Neil and the field survey by Ian Scott, Andrea Scott and Chris Scurfield. The report was written by Nigel Neil and edited by Jamie Quartermaine (Project Manager) and Rachel Newman (Deputy Director). The project was managed by Jamie Quartermaine.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 An archaeological assessment has been undertaken at the proposed wind farm site at Great Hill, near Calderbrook, in Blatchinworth and Calderbrook township, Rochdale Metropolitan Borough, Greater Manchester (centred at NGR SD 925 195), by Lancaster University Archaeological Unit (LUAU). This occurred in June 1998 and December 1998, on behalf of Renewable Energy Systems Ltd (RES). The site, measuring a maximum of 2050m east/west, by 1100m north/south, comprises parts of Crook Moor, Crook Hill, Cuckoo Hill, Long Hill, Stubley Cross Hill, Turn Slack Hill, Fox Stones Hill, Allenden Hill, and Oowler Clough Head. To the north, in the Metropolitan county of West Yorkshire, is Shore Moor. The site is one of two being considered for wind farm developments; the Hogshead site, near Whitworth, Lancashire, has been reported on separately by LUAU (1998).
- 1.1.2 The purpose of the assessment was to assemble desk-based evidence for the archaeological and historical potential of the site, and to test this by a field identification survey. The archaeological assessment utilised information contained in the Greater Manchester Sites and Monuments Record (GMSMR), maintained by Greater Manchester Archaeological Unit, at the University of Manchester; this was supplemented by aerial photographs, county and local published histories, early published and manuscript maps, and such primary documentation (ie manuscripts, etc.) as was reasonably available.
- 1.1.3 The identification survey involved a systematic examination of the ground surface of the study area by field walking. The results of all elements of the survey were amalgamated in the project gazetteer (*Appendix 2*). The desk-based survey and field inspection were undertaken between the 8th and 26th June 1998, and a further day in the field on 7th December 1998.
- 1.1.4 This report sets out the assessment results in the form of a short synthesis which outlines the findings, followed by a statement of the archaeological potential of the area, and an evaluation of the impact of the proposed development. This is complemented by a gazetteer of sites, both new to the record and formerly known, and a bibliography.

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 A project design (*Appendix 1*) was submitted in April 1998 by LUAU in response to a request from Renewable Energy Systems Ltd, for Archaeological Assessments of the proposed construction of two wind farms at Hogshead, Lancashire and Great Hill, Greater Manchester.
- 2.1.2 The project design provided for an archaeological assessment involving a desk-based study, a rapid field inspection, and this written report, which interprets the data discovered during the project and assesses the implications of the development. The assessment has been carried out in accordance with the project design.

2.2 DESK-BASED SURVEY

- 2.2.1 The desk-based assessment utilised sources in Greater Manchester Archaeological Unit (GMAU), at the University of Manchester, Lancashire Record Office, Preston (LRO), Lancaster University Library, Lancashire County Archaeology Service, Rochdale Local Studies Library, the Coal Authority's records at Bretby, Staffordshire, and LUAU and N Neil's own collections. The sources used in the documentary assessment are listed in the bibliography.
- 2.2.2 A rapid desk-based compilation of geological and topographical information was undertaken, though no borehole data specific to the site was available.
- 2.2.3 A gazetteer of archaeological sites identified from documentary and aerial photographic sources, within the designated area and its immediate environs, has been compiled (*Appendix 2*), and these sites have been plotted on Figure 2. Selected sites within c100m radius of the site boundary are also included in the gazetteer, where relevant. It should be noted, however, that LUAU has been advised by the Coal Authority Mining Record Office that there is a possibility that underground mine-workings, beginning from shafts further from the site boundary than this, could be relevant from an engineering point of view (See notes on Mining Records below).
- 2.2.4 ***Sites and Monuments Record study:*** the Greater Manchester Sites and Monument Record (GMSMR) refers to 13 sites within or in the immediate vicinity of the proposed development area. One of these sites, Far Ends Clough (**Site G13**), comprises the results of an excavation by Littleborough Historical and Archaeological Society in 1985 (Grayson and Steeles 1985), and all but one of the other SMR sites within the study area are assemblages of 'collected' flints. The word 'collected' here is used (as advised by Marriott and Yarwood 1994, 17) to describe retrieval of flints by considerably less precise location than 'fieldwalking' or 'excavation', often carried out over a period of years for any locality. This method of retrieval has in the past been and continues to be, a principal source of new prehistoric material in this region. Littleborough Historical and Archaeological Society records for 'flint collecting' in the study area are held by GMAU.
- 2.2.5 The site shares its eastern boundary with West Yorkshire and the West Yorkshire Archaeological Service (WYAS) was therefore contacted for details of relevant sites on or close to the county boundary. Whilst WYAS were willing to inform LUAU informally that there were no sites of importance in the area, a large fee would be

levied for fuller information. As the information related to sites beyond the immediate study area it was considered that it was of insufficient value to warrant the formal application SMR details.

- 2.2.6 The National Monuments Record's 'Monarch' database, based in Swindon, was consulted by letter in order to enhance the GSMR and WYAS information. Five of the sites on the NMR database within the study area were already known from the GSMR search (NMR cross-references given in the gazetteer), and one other (a building) is c250m beyond the development site boundary.
- 2.2.7 **Museum Collections:** Barnes (1982) records the majority of prehistoric artefacts which were extant in museums at the time of his research, but other discoveries are now lost, and new discoveries may have been made since 1982. He lists only one item from the study area (Barnes 1982, 108, no.178) and this was already known from the GSMR and NMR data. This is a flaked flint knife, now in Manchester Museum. In the time available, it was not possible to confirm if Manchester Museum has other material from the study area. The finds and sites known to Wymer (1977) have previously been entered on the GSMR, and are cross-referenced in the gazetteer of the present report.
- 2.2.8 It is understood that Littleborough Historical and Archaeological Society still hold most of the material recovered by their members (D Grayson, N Redhead, pers comms). Rochdale Metropolitan Borough Council Museums Service (Debbie Walker and Andrew Moore, pers comms) and Rossendale Museum (Sandra Cruise, pers comm) were contacted for information on artefacts, documents etc in their collections, but no material relating to the development site was located. Salford Museum of Mining (Alan Davis, pers comm) has artefacts and documents relating to Old Meadows Colliery (abandoned c1970), west of Bacup, in its collections, but again nothing specific to the development site.
- 2.2.9 **Aerial photographic study:** a vertical sortie for the study area, held by Lancashire County Council (LCC) Planning Department, was studied, using LCC's enlarging stereoscope. This was the 15 September 1963 black and white, 1:10,560 sortie HSL UK 63.115, Run 2A, frames 1921-23. Whilst no sites not already recorded were located, and flint scatter sites cannot be expected to show at this scale, the extent of peat erosion, which effectively controls the available areas for flint collecting, was sketch-plotted. RAF coverage from 17 May 1948 was found in the LRO, comprising sortie 541/27, frames 4198-4200, at a scale of c1:14,000.
- 2.2.10 Most coverage for the area is held by Greater Manchester Geological Unit, Williamson Building, University of Manchester, but, in the light of the limited value of the 1948 and 1963 sorties already seen, this repository was not accessioned. A cover search from the National Monuments Record (NMR) in Swindon was also requested but has yet to be received.
- 2.2.11 **Cartographic research:** a comparison of the changing use of the site and a c100m radius around it, especially property boundaries, coal workings, and buildings, was based principally on Ordnance Survey (OS) 6": 1 mile (1:10,560) and 1:2500 coverage of c1850-c1930 and 1:10,000 mapping of c1975. Features were compared on maps enlarged to a uniform 1:2500 scale. Yates (1786) map was the only earlier source located in this instance, though it is possible that the moorland may be shown in outline on earlier surveys in Rochdale Local Studies Library (RLSL). No title or

enclosure map for this area has been located in LRO, RLSL, or in Todmorden Library.

- 2.2.12 **Mining Records:** the Coal Authority mining records office at Burton-on-Trent, Staffordshire was contracted to supply a list of plans of abandoned mines. Records exist for two collieries adjacent to (perhaps with workings under) the study area, but RES did not consider it necessary at this stage to obtain copies. The production of plans of extant and abandoned workings was first required by law in the Mines Act 1850 (Lewis 1971, 60), but it was over 20 years before such plans had, by law, to be deposited, rather than retained by the mining companies for inspection on request. The recorded workings adjacent to the Great Hill development site were abandoned in 1914 (Higher Shore Colliery) and 1928 (Wall Nook) [total of six plans], and may therefore contain all the information necessary. The Coal Authority also list J Dickinson's 1860s coal survey data for the area as being part of their collection. The possibility of unrecorded workings should not be ruled out, for which abandonment plans would *not* be held by the Coal Authority. A group of 'bell pits' was identified to the west of the development site (**Sites G37-50**), in addition to the more recent colliery sites of the late-nineteenth and twentieth centuries.
- 2.2.13 **Primary and secondary documentary sources:** from a study of secondary documentation and selected primary documents, a historical framework for the site was constructed. The history of the parish of Rochdale, so far as it is relevant, and the manorial descent of Hundersfield township, its later sub-division of Blatchinworth and Calderbrook, and the manor and hamlet of Shore, are recorded by the *Victoria County History* (Farrer and Brownbill, 1910, 222 and 227-20). The *Guides* (France 1985; Martin 1992) to the Lancashire Record Office (LRO), Preston, were checked for collections of material relating to the area, but only parish records are held by the LRO in this instance.
- 2.2.16 Rawtenstall Library holds a collection of material on Rossendale coal mines compiled by the late John Davies, a former miner at Old Meadows Colliery, in the 1970s-1980s. This collection comprises a 750-page bound volume of descriptive and historical text, plans, photographs, and transcripts of newspaper coverage, covering 114 collieries, and four boxes of uncatalogued photographs, original mine plans, and other material. It could not be accessed in the time available, but is known to cover several, if not all, the mines within the study area in use between c1797 and 1969 (Keith Burrows, Rossendale Library, local studies, pers comm).
- 2.2.17 GMAU (1990) undertook extensive documentary, aerial photographic, and fieldwalking assessment of a number of former industrial 'Reversion Areas' on behalf of English Heritage in 1988-90. The Rochdale study area includes the western margin of the present development site, including large numbers of 'bell pit' colliery shafts, of unknown date and certainly pre-1851, but possibly late eighteenth century. A number of quarries was also identified. These sites had not been entered on the GMSMR, but those within the development site, or a c200m corridor around it, are included in the present study.

2.3 IDENTIFICATION SURVEY

- 2.3.1 A systematic surface inspection of the Great Hill study area was undertaken to ensure complete coverage of the ground. The whole of the area subjected to field walking was open moorland and was walked on 30m transects to identify earthworks. The

archaeological detail, as well as significant topographic detail, was mapped to an accuracy of +/- 1m, using differential Global Positioning System (GPS) techniques, which uses electronic distance measurements along radio frequencies to satellites to enable a fix in Latitude and Longitude, which were subsequently converted mathematically to Ordnance Survey National Grid.

2.4 GAZETTEER OF SITES

- 2.4.1 All of the information concerning archaeological sites in the affected area has been collated into a gazetteer (*Appendix 2*). This provides details of their location, origin, and character. Locations are given as eight-figure National Grid References where possible. A summary description of each site is provided in conjunction with a reference to the source of the information (SMR, cartographic, documentary, field inspection) with references as appropriate, and an assessment has been given of the interpretation and archaeological potential of the site. The sites have been marked onto a digital map showing their location (Fig 2). Other sites beyond the extent of the study area, which were considered to be of background relevance, are mentioned in the text with appropriate SMR references.

2.5 ARCHIVE

- 2.5.1 A full archive of the desk-top study and the field inspection has been produced to a professional standard in accordance with current English Heritage guidelines (English Heritage 1991). The archive will be deposited in the Greater Manchester Sites and Monuments Record and a copy will be available for deposition to the National Monuments Record.

3. TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

3.1 SOLID GEOLOGY

- 3.1.1 The solid geology of the south-western part of the area (approximately Crook Moor), as mapped in general terms by the Institute of Geological Sciences (1978), comprises what are now called the ‘Productive Coal Measures’ - grey mudstones, siltstones, and sandstones - of the Westphalian subdivision of the Upper Carboniferous. As a result of geological faulting, in the eastern two-thirds of the site, and to the north of it, the underlying Namurian Carboniferous sandstones and mudstones (formerly called the Millstone Grits) are exposed. The uppermost rock strata are named as follows by the Geological Survey (1927): Bullion Mine Rock to the west, Woodhead Hill Rock to the east, and Upper Haslingden flags, beyond the development site to the east.
- 3.1.2 In the apparent absence of recent detailed geological mapping the seam names used in the Coal Authority’s lists have been used. Wall Nook Colliery exploited the Ten Inch or Lower Foot seam, Higher Shore Colliery the Little Mountain seam. The coal pits predominantly exploited the strata called, in the older literature, the ‘Upper Mountain Mine’, or locally the ‘40 Yards Mine’ (the depth to reach it (36.6m)), and the ‘Lower Mountain Mine’ or ‘Yard Mine’ (its thickness, 0.91m), of the Lower Coal Measures (Geological Survey 1927). A few collieries also exploited the Half Yard Mine seam. The old name for the Lower Mountain Mine (pre-c1850) was the Gannister Mine, Ganister being a highly siliceous form of fireclay or seatearth, found beneath the coal. This was extensively exploited for the production of drain pipes, chimney pots, and sanitary wares (Edwards *et al* 1954, 81).
- 3.1.3 Hull *et al* (1875, 58) gives the following description of the Littleborough and Wardle Coal District:

‘The coal measures of the district are bounded on the north-west by the uprising of the Millstone Grit of Ashworth Moor, Knoll Moor, Tunnicliffe, Whitworth and Shawforth. The coal field is contracted to the width of about half a mile, formed by the high ridge called Trough Edge. ... From the eastern base of Trough Edge the coal measures are bounded by a narrow strip of Rough Rock, skirting the flanks of Weather Hill, Ramsden Hill, and House Pasture, and spreading over the top of Shore Moor. Here the boundary becomes a fault, which is visible at the junction of Brook Holes Clough with Horse Pasture Clough, and ranging in a South South East direction by Fox Stones Hill and Calderbrook, crosses the Todmorden Valley, and continues its course southward along the western slopes of Stormer Hill, Draught Hill, and Whitaker Moor to Longden End.

... The Upper and Lower Mountain Mine are worked, and also occasionally the little seams which lie above and below the Gannister Coal, called the Upper and Lower Foot Mines. The main seams are exhausted over a considerable tract. ... The highest seam worked is called the Bassey Mine, and is c30 yds above the ‘40 yards or Upper Mountain Mine’. ... Near Spotland Mill, the Gannister Coal is worked in a colliery belonging to Capt. Fishwick at a depth of 130 yds., and is 2 ft in thickness. At Dunnisbooth Wood, higher up the valley, the 40 yds Mine is worked and a fine section outcrop of Gannister Coal is seen.’

- 3.1.6 It should be borne in mind that the geological strata are greatly affected by faulting, with the result that the same seam may be worked in adjacent collieries at levels ‘hundreds of feet different in altitude’ (Davies *nd*, 2).

3.2 DRIFT GEOLOGY, SOILS, AND TOPOGRAPHY

- 3.2.1 **Drift Geology:** the drift geology comprises blanket peat over most of the site (Geological Survey 1927), with boulder clay to the south of it. The soils (mapped by Lawes 1983) belong to the Winter Hill Association [map symbol 1011b], which comprise ‘thick, very acid, raw peat soils, which are perennially wet and are hagged and eroded in places’ (Ragg *et al* 1984; Hall and Folland 1970, 42-4, and map code 21). Fringing the site on all sides, the soils lower down the hill slopes are the Belmont Association’s [651a] ‘coarse loamy, very acid, upland soils over rock, with a wet peaty surface horizon and thin ironpan. There are some shallow peaty soils’ (Ragg *et al* 1984; Hall and Folland 1970, 54-8, and map code 6).
- 3.2.2 **Topography:** the development site measures a maximum of 2050m east/west, by 1100m north/south and comprises parts of Crook Moor, Crook Hill, Stubley Cross Hill, Turn Slack Hill, Fox Stones Hill, Allenden Hill, and Owler Clough Head. To the north, in West Yorkshire, is Shore Moor. Approximately 1.5km to the south-east lies the village of Calderbrook, and a similar distance to the south-west is Watergrove reservoir, around which are the remains of Watergrove village, which was demolished in the 1930s (Flood 1989).

4. ASSESSMENT RESULTS

4.1 HISTORICAL BACKGROUND

- 4.1.1 **Prehistoric:** the main component of the archaeological record for the Great Hill site comprises Mesolithic flint assemblages, with some Neolithic material, which come from occupation horizons sealed under the blanket peat which developed in the later prehistoric period. During the period c8,300 - 5,000 cal BC, the earlier part of the Mesolithic period, major modifications in climate occurred, with consequent changes in flora and fauna. At this time rainfall is thought to have been c11% higher than now, and temperatures would have been c2-3°C higher, although the rainfall would have been higher than this, and the temperatures lower, in upland areas. The vegetation during this period would have been predominantly forest, and would have contained diffuse populations of red deer and aurochs (large wild cattle) (Barnes 1982, 21).
- 4.1.2 Interest in the interpretation of the working floors of Mesolithic hunters has persisted for over a century, but much of the early work, and a high percentage of current 'collecting' (Marriott and Yarwood 1994), is both inaccurately located and sketchy in terms of the records kept. As a result, whilst there has been a substantial number of flint finds from the study area, the amount of information that may be gained from the records is largely numerical, with the possible exception of the inconclusive excavation at Far Ends Clough (Grayson and Steeles 1985) by Littleborough Historical and Archaeological Society. The distribution of Mesolithic finds in Rochdale Borough (Pearson *et al* 1985, 107) is heavily biased towards the Great Hill area, and to Low House Moor and Bleakedgate Moor in the east of the Borough reflecting the considerable amount of survey work undertaken by Littleborough Historical and Archaeological Society.
- 4.1.3 Stonehouse (1989; 1994) has characterised the Mesolithic sites of two 9 km sq areas lying north and south of Castleshaw Moor. He states that Early Mesolithic sites are characterised by 'comparatively large simple microliths, and especially by Obliquely Blunted Points', generally with 'opposed retouch on the leading edge', and generally (95%) of the assemblage was made of 'a chert-like mottled grey white flint'. Later Mesolithic sites are characterised by smaller 'geometric' microliths, such as Scalene Triangles, Backed Bladelets or 'rods', and Trapezoids, made of a variety of flints and chert, most commonly translucent brown flint. Black chert is found on sites of both periods, but is more commonly of a later date.
- 4.1.4 Marriott and Yarwood (1994) undertook a 'pilot project' on behalf of English Heritage's Monuments Protection Programme (MPP), to assess the standard of documentation of lithic scatters in West Yorkshire, with the aim of determining the applicability of 'protection' strategies for these sites. The overall aim of the programme was to upgrade and revise the total number of Scheduled Ancient Monuments in England, and in the process assess how to approach the management of each type of site. The significance of sites is typically scored on the basis of archaeological characteristics, which include: type, survival, archaeological potential, documentation - both archaeological and historical - diversity of features, amenity value and group value). Endemic to the study of lithic scatters is the problem that the best documented sites and therefore potentially those with the 'highest scoring', are precisely those where there has been the most collection activity, and which have been consequently the most damaged.

- 4.1.5 Pearson *et al* (1985, 109) show no Neolithic or Bronze Age sites or finds from within or near the study area.
- 4.1.6 **Roman:** there is little Roman activity recorded between the Manchester to Ribchester (Margary 7b) and Blackstone Edge to Ilkley (Margary 720a) roads (Margary 1967, 359, 370-1), neither of which is within the study area. The famous silver statue's arm found in 1793 was recovered from Tunshill Quarry, in Butterworth township, in the south-east corner of the parish (Fishwick 1889, 11-12).
- 4.1.7 **Early Medieval:** the Early Medieval history (pre-1066) of Salford Hundred, Rochdale Parish, Hundersfield Township, and two of its later four sub-division - Wuerdle with Wardle (to the west), and Blatchinworth and Calderbrook, are poorly documented. There is spasmodic reference to the region in relation to the Battles of Whalley in AD 798 and *Brunanburh* in AD 937 (for which Bacup is among the many suggested locations; Taylor 1956, 10) but this does little to inform the history of eastern Lancashire. Rochdale, as part of what was to be known as the land 'Between Ribble and Mersey' at the time of *Domesday Book* in 1086, was Crown land in 1066 which was included in the bishopric of Lichfield; however, there are few documented pre-Conquest churches in Lancashire, and no monastic lands are recorded in the county before 1066.
- 4.1.8 **Place-names:** March (1880), Ekwall (1922, 54-61), Schram (1935), and Mills (1976) have contributed to place-name studies of Rochdale, though March's derivations should now only be used with caution. The name Rochdale appears in *Domesday Book* as *Recedham*, meaning either 'the *ham*, or village on the [River] Roch or Rached' - with the river name being of Celtic origin, although as Ekwall (1922, 55) prefers to think, from the rarely-found Old English (ie Anglo-Saxon) *reced* meaning a house, hall, or palace. The township name Hundersfield first appears in 1102 as *Hunnordesfeld*, meaning the town-field of Hunworth, a 'lost' place-name derived from the Old English personal name *Huna* and *worth* 'an enclosure'. The etymology of Blatchinworth (*Blackenworth* in 1276) is uncertain and again an Old English personal name *Blaecca* is likely, again with *worth* 'an enclosure', though *blaec* 'black' and *blaecen* 'bleaching' are also possible.
- 4.1.9 Wardle is first recorded in c1193 as *de Wardhul*, meaning 'ward hill, or look-out hill', while Wuerdle, first recorded as *de Werduell* in c1180, may derive from the Old English *weorod*, 'troop, host'. Ekwall thinks that 'the host' may have been stationed on Wuerdle, and seen from Wardle. Shore, as in Shore Moor and the name of a manor in Blatchinworth, in the local dialect means 'a steep rock', and may be related to the Old English *scorian* 'to project' (Ekwall 1922, 56-8).
- 4.1.10 **Medieval:** the *Domesday Book* records that, before the Conquest, the lordship of Rochdale (which would have included the development site) was held by a *thegn* or *thane* (a member of the royal household; an armed servant of the king) called Gamel (Taylor 1956, 14). The whole of Blackburn hundred, and the adjacent lordship of Rochdale, passed to Robert de Lacy, probably early in the reign of William Rufus (1087-1100), when it was resigned by Albert Grelley and Roger de Busli. Gamel's descendants seem to have remained tenants of the de Lacys in parts of Rochdale until c1350 (Farrer and Brownbill 1908, 282, 287a). The manor of Rochdale descended with the Honour of Clitheroe to the Dukes of Lancaster and then the Crown, though the Byron family had previously leased it from the Crown (Fishwick 1903, 1).

- 4.1.11 The western part of the development site comprising Crook Moor, Crook Hill, Stubley Cross Hill, and Turn Slack Hill, lies within Wuerdle and Wardle but the early history of this sub-division is poorly documented. From an early date its principal manor house, Stubley (near Littleborough), was the seat of the Holt family, who acquired one sixth of the manor of Rochdale in c1353 (Fishwick 1913). Castleton became the manor house after c1626.
- 4.1.12 Relatively little documentary evidence is cited by previous authorities for Blatchinworth and Calderbrook, which occupies the eastern part of the development site, beyond saying that these subdivisions of Hundersfield are of less antiquity than Wardleworth, Wuerdle and Wardle, and Todmorden and Walsden; the latter is now in West Yorkshire. It would seem that some of the sub-division had at one time been granted to the Abbey of Stanlaw, in the Wirral (founded 1170), which moved to Whalley in 1294. Part of the development site seems to have been within the manor of Shore, which was a possession of the Knights of St John of Jerusalem (the Knights Hospitallers) before 1329. The manorial seat was at what is now called Handle Hall, home of the Deardens, who purchased the manor of Rochdale from the Byrons in 1828.
- 4.1.13 In Walsden, to the north and including Shore Moor, are the remains of iron forges, documented as early as 1235 (Farrer and Brownbill 1910, 222), but similar remains have yet been found in the study area.
- 4.1.14 **Packhorse road:** the Long Causeway (**Site G14**) forms the western boundary to the development site. It is a medieval packhorse route, continuing the line of Ramsden Road north of Watergrove Reservoir/drowned village, and extending to Wardle. In Robertson's (1897, 196) time, the parts 'just above Marlearth (at rough Hill End, near Wardle)', and others were flagged, although it is now grassed over.
- 4.1.15 **Post-medieval:** the earliest reference to coal in Rochdale dates from 1580/1 and concerned Falinge, Knowle House near Littleborough, and Cronkeyshaw, north of Buckley (Wadsworth 1949, 105; Collingwood 1972). Coal was being dug on the hills above the Watergrove valley in at least the early sixteenth century. The manor survey of 1610 records mines on Featherstone Common 'lying about Crooke or Huddersfield' [*sic*] and a 'lytle coal myne' on Brown Wardle (Fishwick 1903, 94; GMAU 1990, 24). In the 1626 survey (Fishwick 1913, 113), Alice Wolstenholme held by lease for 21 years from November 1623, which empowered her to 'search, myne, digg, and drayne for coals' within parts of Shore Moor in Wardle, which were part of the copyhold lands of the late Henry Bamforthe. The lease had not been enrolled, and she had destroyed much timber for 'supporting of her pits'.
- 4.1.16 In 1784 William Byron, the then lord of the manor of Rochdale, leased to John Lomax and Simon Dearden the right to mine coal under Middle and Hades Hills, and also other parts of the northern moors of the manor, perhaps including Great Hill. Wall Nook Colliery was in use by 1851 (OS), and was owned by James Dearden in 1867 (Baines and Fairburn 1867, 331-2), but details of its history have not yet been studied (Davies nd, no 113). This colliery was abandoned in 1928 (Coal Authority list).
- 4.1.17 The Children's Employment Commission (1842) does not mention collieries in this area, but in 1852 there were 44 collieries in Spotland, employing 330 'pickmen' (Collingwood 1972). The 1861 census reveals that there were 1,100 miners in Rochdale, and in 1867 there were 56 collieries in Rochdale (Baines 1867, 133), which should be compared with the 114 which are known to have existed at one time or

another in Rossendale (Davies nd, index). Some of these employed as many as 100 men, and the boom continued until the 1870s, but the seams became depleted and most collieries closed by 1880, with only a handful surviving into the twentieth century.

4.2 DESK-BASED ASSESSMENT

- 4.2.1 **Sites and Monuments Record evidence:** as described above (*Section 4.1.1*), the information from the GMSMR concerning Mesolithic lithic scatters is the most important archaeological aspect within the study area. Twelve sites (**Sites 1-10 and 12-13**) with lithic assemblages have been identified from within the study area, most of which have six figure grid references and therefore are accurate to only +/- 100m; the imprecision of their provenance is graphically shown on the site map (Fig 2).
- 4.2.2 **Cartographic Evidence:** the cartographic evidence (OS 1851, 1893-1930) highlights within the study area a number of boundary stones, small buildings and also some mining remains. The production of plans of extant and abandoned workings was first required by law in the Mines Act of 1850 (Lewis 1971, 60), but it was over 20 years before such plans had, by law, to be deposited, rather than retained by the mining companies for inspection on request. The list supplied by the Coal Authority indicates that for the study area they hold abandonment plans only for Wall Nook (abandoned 1928) and Higher Shore (1914) collieries. These plans will probably show the extent of 'levels' but may or may not give further details, beyond that on the OS maps, of surface features such as shafts, air shafts, adits, entries and buildings, tramways, etc.
- 4.2.3 **Other Documentary Evidence:** GMAU's (1990) project on post-industrial 'Reversion Areas' is restricted to the area around Watergrove and just touches the Great Hill site, but GMAU had earlier (Pearson *et al* 1985) assessed the archaeology of the whole of Rochdale Metropolitan Borough. Earlier studies, beginning with that of Fishwick (1889) are also apparently reliable.
- 4.2.4 **Enclosure:** enclosure of common pasture in Rochdale began in earnest in the early part of the sixteenth century, along with continued forestry clearance or 'ridding'. Initially, this was perceived as putting in jeopardy the medieval townfield system, to the benefit of large landowners and the detriment of tenants. Although the open-fields were smaller in the north of England, because of the size of the hamlets they served, than was the case in the Midlands, they nevertheless existed, as evidenced in the *Whalley Cartulary* (Hulton 1847; Wadsworth 1922, 100). The Byrons were active enclosures of land in the seventeenth century, and by the time of the 1626 survey virtually the whole manor had been enclosed as closes and homesteads. Enclosure of commons was nevertheless a matter of great concern until the nineteenth century, and there is little, if any, evidence for enclosure of the high moors within the study area, and no enclosure map has been located.

4.3 IDENTIFICATION SURVEY

- 4.3.1 **Prehistoric:** no features of prehistoric origin were identified during the identification survey. In part this was because the study area had been subject to heavy rain during the few days prior to the fieldwalking and as a result the majority of peat exposures, where flint scatters are typically identified, was under standing water and could not be

examined. Due to the recent dry summers (1995-6) intense fires have been reported around Cuckoo Hill (pers. com. landowner of Pasture House) this has resulted in large circular depressions with new green vegetation. All peat exposures resultant from these fires were examined in the course of the second phase of field survey (December 1998), but none revealed any lithics.

- 4.3.2 **Agricultural Sites:** the survey identified a limited number of agricultural sites either within the study area or near the line of the access route to the wind farm site. The low number of such sites reflects the fact that the study area is unenclosed moorland and has not been subject to intensive farming practices within the recorded history of the site. The remains of a substantive farm building (**Site G64**: Forest Lodge farm) was recorded near the line of the access route to the site; it is shown on the OS 1st edition OS map (1851). This farm comprises of six individual square-shaped cells, within a basic rectangular frame, constructed on three level platforms, of varying heights and the central cell contains a rubble-filled cellar accessed via a stone stair to the south. It is entirely constructed from haphazardly arranged small to medium sub-angular stones with an apparent lime-based bonding material. There was no evidence of any roofing material, suggesting that this had been deliberately removed from the site after abandonment or that it was constructed of an organic substance such as wood, turf etc. To the west of the farmhouse was a level plot, edged to the south by a retaining wall.
- 4.3.3 To the east of the Forest Lodge house was a small outbuilding (**Site G65**), which was square in plan and constructed in a similar style to the main building; its walls stood to 0.85m in height. This structure is positioned at the base of an area of steeply sloping ground and its northern wall serves as a revetment. A further wall (**Site 84**) was found to the south and sets **G65** within its own enclosure. A possible gap/entrance way lay to the south-west of the **G65** enclosure where the wall footings stopped. Just to the north-west of **G65** was another small two celled building (**Site 83**), internally each cell was c2m square and the walls were 0.45m wide with one doorway (0.65m) to the south-east. This building (**G83**) comprises coarsely laid blocks up to about eight courses high and it was cut into the south-west facing slope.
- 4.3.4 Two buildings (**Site G27**), aligned north/south and marked on the OS 1st edition map (1851), were identified within the study area. The southern building was single celled, rectangular in plan and entirely constructed from haphazardly arranged small to medium sub-angular stones with an apparently lime-based bonding material. An entrance was identified in the eastern wall although there was a large amount of stone rubble obscuring much of the detail. The second, northern, building was of similar construction and similar single-celled style and would appear, from its style of construction, to be of similar date to the southern building. No entrance was identified into this structure although there was a large quantity of rubble obscuring the detail.
- 4.3.5 **Site G82** represents another two-celled structure with a similar position and aspect to **G83**. However, unlike **G83**, it was not closely associated with other buildings and was of a much better construction. The walls were faced both sides and had a rubble infill, and there is no mortar now evident; the north wall is cut into the hillside and stands to a height of 1.75m, the walls are 0.7m thick. The building has two cells 3.5m (east) and 2.5m (west) in width, and there were no door ways evident. This structure would appear to be a form of store possibly in association with quarries to the north-east (**Sites 79-81**).
- 4.3.6 A further building was probably single celled and seems likely to represent a crude shepherd's shelter (**Site G77**). **Site 85** is also of crude construction and butts the

current drystone boundary wall; it is 2.5m by 1.25m. It is of relatively recent date, but its purpose is unknown.

- 4.3.7 **Mining Landscapes:** the most significant and extensive resource recorded by the survey was of a mining landscape on the south side of Crook Hill (**Sites G37-G58, G69-G72 and G75**). This was initially recorded in the course of the GMAU Reversion Areas study (GMAU 1990), although the present study has refined the precision of survey of the individual shafts and has identified seven more than had been previously recorded. The landscape was composed of a large number of substantial mine shafts, often comprising a deep, circular hollow that is up to 10m across, and in some cases c 2m deep. To the south of each shaft is the spoil mound which is now earthfast and often very prominent, being up to 2.5m in height. The size and volume of the spoil mound is invariably much larger than the equivalent volume of the shaft hollow, indicating that the shaft was formerly excavated to a much greater depth than is now evident.
- 4.3.7 These shafts are randomly scattered over a broad band that extends south-east from the area of the Wall Nook Colliery, approximately following the line of the contours. They are not set in lines and do not therefore reflect the exploitation of a narrow seam. The adjacent area of enclosed rough pasture land, on the south side of Crook Hill, was outside the study area and therefore was not specifically examined by the present study; however, no shafts were observed there from the boundary of the study area and no shafts were recorded within it by the GMAU Reversion Areas Study (GMAU 1990), despite the fact that the shafts were found to extend right up to the north-eastern edge of the enclosed land. This would indicate that the mining activity was specifically excluded from the enclosed land and would imply that the mining post-dated its enclosure; it is unlikely that the remains of any shafts would have been removed by subsequent landscaping as the ground does not appear to have been subject to particularly intensive improvement. There is, however, a series of irregular depressions (**Sites G16, G52, G54 and G56**), with associated spoil mounds, which are distinct in form from the other mine shafts and more consistent with quarries. They are significantly located close to the line of the field boundaries of the enclosed land and there is a possibility that these were quarry pits for walling stone.
- 4.3.8 No shafts or indications of mining remains are marked on the 1st edition (1851) or subsequent editions of OS mapping in this area, which would suggest that the mining activity predated this mapping.
- 4.3.9 Alongside a steep sided, deep stream gully extending north from Turn Slack reservoir, was a further area of mining remains (**Site G74**). This was more extensive and potentially reflected a more intensive mining operation than that of the scattered shafts on the south side of Crook Hill. It comprised an extensive area of large and irregular spoil mounds spread along the top and just below the top of the west side of the gully; these were in part spreading down into the gully. Associated with these are some possible shaft hollows, but they are not as clearly defined and substantial as those of the nearby Crook Hill group and do not therefore appear to be the main source of the considerable extraction implied by the volume of spoil. There are, however, at least two terraces/ditches set into the side of the stream gully and there is an implication that a shallow, horizontal coal seam was exploited along the extent of its exposure in the side of the stream gully.
- 4.3.10 To the east of the Forest Lodge farm, on Cuckoo Hill, was a small group of quarry and mining sites (**Sites 79-81**). **Site 79** comprises a large linear quarry, oriented down the

slope, which is linked to **Site 80** to the east by an earthfast track. **Site 80** is an artificial platform, which was potentially an extraction working area, and is sited in the col of Cuckoo Hill. Across the eastern peak of Cuckoo Hill are a series of small quarries (**Site 81**).

- 4.3.11 **Sites 86-89** are a series of large quarries dating from the nineteenth century, and are shown on the OS 1st edition mapping (1851) and also shown on the modern OS mapping (1975) as Quarries (disused). Judging by their extensive nature, they clearly represent a major intrusive episode in the development of the areas topography, and are similar to the other major quarries in the region (LUAU 1997).

5. DISCUSSION

5.1 PREHISTORIC POTENTIAL

- 5.1.1 The principal archaeological resource highlighted by the assessment has been the lithics find spots, which have been identified by the Littleborough Historical and Archaeological Society. These reflect a considerable amount of activity, particularly from the Mesolithic period between c8,300 and 5000 Cal BC. The material reflects casual losses, although in some cases they provide an indication of working floors where tools were knapped.
- 5.1.2 The Mesolithic populations typically had a hunter-gatherer economy, which encourages a fairly nomadic life style; established settlements were few and mostly for over-wintering in the lowlands. The best indicator of any camp, however, is the lithic waste that they left behind as a result of working chert or flint into tools. A Mesolithic lithic scatter similar to those found at Great Hill, particularly **Site G13** (Grayson and Steeles 1985), has been excavated by LUAU (Howard-Davis 1996) on Anglezarke Moor in East Lancashire. It revealed over 400 fragments of flint and chert, some of which was burnt. Of this total assemblage, only 18 were tools and the rest was working waste; the results were consistent with this having been a working floor for the production of tools. Significantly, two very small, simple structures were identified in association with this assemblage which were interpreted as windbreaks. The site on Anglezarke would appear, however, to have been no more than a temporary camp, as there was no indication of any more substantial structures or even a hearth. The Mesolithic sites on Great Hill are likely to be at best similar in character and at worst no more than isolated finds lost during hunting. The relatively large number of sites does not necessarily reflect intensive hunting activity, but instead is more likely to be an indication of repeated low level activity over an extended period of time.

5.2 AGRICULTURAL LANDSCAPES

- 5.2.1 The study area has never been enclosed and the terrain is now unimproved moorland; there is no evidence of any intensive farming activity associated with it within the documented history of the site. The agricultural remains identified are consistent with a low intensity pastoral usage and date from the post-medieval period; as such they are of low archaeological significance.

5.3 MINING LANDSCAPES

- 5.3.1 Apart from the lithic sites the only other significant archaeological remains are the product of coal mining activities. The earliest documented coal mining in Rochdale dates from 1580 and includes Knowle House which was to the south of the study area. The manor survey of 1610 records mines on Featherstone Common that were 'lying about Crooke or Huddersfield' (Fishwick 1903, 94) and could potentially refer to the mining remains identified on Crook Moor (**Sites G37-G58, G69-G72 and G75**). These mines are not referred to on any of the early OS maps and by implication are earlier than 1851 (the date of the OS 1st edition map). Their form and characteristics are consistent with low intensity coal extraction and could potentially date to the

seventeenth century. The mining remains along the western side of Turn Slack Beck (**Site G74**) reflect a more intensive type of production site, although it appears to have been extraction from a seam where it was exposed in the stream gully. This is still a less well developed and less systematic approach than that exhibited by the nearby Wall Nook Colliery (outside the study area) which was in use by 1851 (OS 1st edition map). The implication is that again this is an early phase of mining, dating to perhaps the seventeenth or eighteenth centuries.

- 5.3.2 The mining landscape on Crook Moor (**Sites G37-G58, G69-G72 and G75**) is very well preserved and the individual shafts are prominent and in good condition. As they appear to reflect an early phase of mining they must be regarded as of regional importance and the landscape as a whole should be preserved if at all possible.
- 5.3.3 A series of fairly extensive quarries were identified (**Sites G88 and 89**), they are immediately adjacent to Calderbrook and probably provided for local building stone, rather than the more national markets exploited by the Rossendale quarries (LUAU 1997).

6. ARCHAEOLOGICAL IMPACT AND RECOMMENDATIONS

6.1 IMPACT

- 6.1.1 **Archaeological Importance:** this assessment has highlighted the archaeological resource within and around the proposed development area. Fifty-two sites with surface expressions have been identified by field walking within the study area and a further 34 have been identified solely from documentary sources within the development boundary. The most significant sites identified by the assessment are the prehistoric lithic sites. These were identified in areas where natural processes have exposed the mineral soils beneath the peat, and as only a very limited proportion of the moorland has been subject to this degree of erosion the field walking has been limited to only a very small sample of the overall area. The fact that as many as 16 sites have been recovered from this small sample would suggest that there are potentially very many more prehistoric sites protected beneath the peat within the development area. Although some of the lithic sites have been identified by the present assessment, it will not be possible to identify any other anticipated sites without undertaking some degree of below ground investigation.
- 6.1.2 The mining landscape on Crook Moor (**Sites G37-G58, G69-G72 and G75**) is very well preserved and the individual shafts are prominent and in good condition. As they appear to reflect an early phase of mining they must be regarded as of regional importance and the landscape a whole should be preserved if at all possible.
- 6.1.3 **Development Impact:** in general the individual turbines will have a relatively small footprint, but it is anticipated that the site preparation and clearance of the ground cover will involve disturbance of the ground over an area of c16-20m diameter. The proposed turbine configuration (RES Ltd letter 29th Oct 1998) for Great Hill will potentially have some impact upon the identified archaeological resource. Turbine 3 will be near lithic scatter site G7. Turbine 5 is just beyond the reported extents of lithic scatters G4, G8 and G12, but by virtue of the relatively high concentration of lithics within this area, it must be considered that there is an increased potential of the recovery of lithics beyond the defined 100m radius hazard area. Turbine 8 is in the locality of shaft G46. Turbine 9 is in the vicinity of shaft G49.
- 6.1.4 In addition to the turbines the main cause of ground disturbance will be the construction of access roads, which will link the turbines and result in the greatest overall area of ground disturbance. Similarly the excavation of trenches for power cables may have a direct impact upon the archaeological monuments and the correlation between the proposed power lines and the archaeological resource should be investigated. The track between turbines 3 and 4 will potentially affect lithic scatter G7. The track between turbines will extend near to lithic sites G4, G8 and G12; even though it is beyond the defined 100m radius hazard area, there is an increased potential for recovering lithics by virtue of the reported concentration of lithics in this area. The track extending north from turbine 11 will potentially affect lithic scatter G11. The track between turbines 8 and 9 will potentially affect lithic scatter G9.
- 6.1.5 There are four options for the main access route into the study area, of which the most probable at the present is Option 1A/1B (RES Ltd letter 29th Oct 1998). Of these LUAU examined route 2 during the first phase of the programme and routes 1, and

route 5 during the second phase of the assessment. Routes 3 and 4 have not been assessed in either phase of assessment, but it is understood that these are unlikely to be selected. Route option 2C will extend directly past the relict farm **G64/65** and will potentially have an adverse impact upon the field system and associated agricultural landscape. Option 2D extends through the area of lithic scatters **G60** and **G63**, and will potentially have an adverse impact upon this prehistoric site. Option 1A extends past a series of large quarries (**Sites G78 and 87-9**), and may potentially have a limited impact upon elements of these features.

6.2 RECOMMENDATIONS

- 6.2.1 It is strongly recommended that, as the first option, the monuments identified by the present assessment be preserved *in-situ*. The code of conduct for the Institute of Field Archaeologists states that members should seek to achieve, as the first option, the preservation of archaeology *in-situ*, and only if this is neither possible nor practical then is it appropriate in some cases to undertake further work to mitigate the effect of development. Defined below are a series of options for mitigating and evaluating the archaeological resource in advance of and during the proposed development.
- 6.2.2 **Avoidance Options:** the size of the area, coupled with a relatively low density of turbine distribution, provides for a considerable latitude in the siting of individual turbines and roads. It is therefore considered that the most expedient and economic conservation option for the archaeology of the area is avoidance. For the most part the sites are individual entities and therefore avoidance of the individual monument is an adequate solution. In these instances turbine and road construction should be at least 30m away from the edge of an identified site to ensure that both the monument and its topographic context are undisturbed. With settlement groups or archaeological landscapes, however, each individual monument is only one aspect of an interrelated complex, and any construction within the group will damage the contextual and topographic relationships that define the broader historical landscape. It is therefore necessary that each monument group is treated as holistically as part of a landscape rather than a collection of independent entities.
- 6.2.3 The proposed turbine locations are at least 30m away from reported archaeological sites; however, some of the sites are imprecisely located and it is recommended that the separation be increased accordingly. It is therefore recommended that turbine 3 be moved by up to 30m to the west of its present location to enable it to be clear of the reported lithic site G7. It is also recommended that the spatial separation of turbine 5 from lithic scatters G4, G8 and G12 be increased by up to 50m to reduce the risk of impacting the area of prehistoric activity. However, by virtue of the uncertainty of below ground archaeological survival, this will not guarantee the preservation of the archaeological resource.
- 6.2.4 The option 2 access route will extend past and impact the field system associated with the relict Forest Lodge farm, and will also extend past the an area of reported prehistoric lithics. Similarly option 5 will extend through the field system of Forest Lodge. Option 1 will extend past a series of large quarries, which are robust features, that will probably be avoided in any case for engineering reasons. It is therefore considered that from an archaeological perspective that route 1 is the preferred option.

However, if at all possible the precise line of the route should be chosen to respect the quarry features, where possible.

- 6.2.5 **Detailed Assessment:** the present assessment examined the primary sources pertinent to the study, but at the same time identified possible sources that could be very pertinent to the assessment of the archaeological resource. The most pertinent of these is the John Davies collection and it is therefore recommended that these be studied as part of any further works on the sites.
- 6.2.6 **Mitigation Survey:** certain sites, if affected by the proposed construction, should be surveyed in detail, to create a record of their current extent and features as mitigation for their eventual destruction. In conjunction with this cartographic recording an oblique photographic record should be generated for the site.
- 6.2.7 **Evaluation:** the most significant archaeological resource within the study area is the lithic sites, which potentially survive as sub-surface evidence below the peat throughout the full extent of the study area. It is therefore recommended that test pitting be undertaken in advance of the construction of each turbine and also the roads to investigate the sub-surface survival of such an archaeological resource. This would be necessary to establish the nature, extent, date and detailed character of any such archaeological resource. It is possible that this work may demonstrate the need for further recording and this should be discussed with the county archaeological curator. If further evaluation is required this should be conducted in sufficient time to allow for final recording of the sites of particular significance prior to construction.
- 6.2.8 **Watching Brief:** in addition to the evaluation it is recommended that a watching brief be undertaken during any topsoil stripping for the construction of the turbines and roads to examine areas that were not investigated by the trial trenching programme.

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7.4 SOURCES LOCATED, BUT NOT SEEN, OR NOT LOCATED

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Lancashire Record Office, Preston

- CBR/7/1-21 Additional valuation lists, Blatchinworth and Calderbrook, 1866-94
- CBR/7/129-37 Additional valuation lists, Wardle 1895-1909
- CBR/7/165-86 Additional valuation lists, Wuerdle and Wardle 1862-94
- CBR/9/28-9 Further valuation lists, Wuerdle and Wardle, 1886, 1893

Rossendale Library, local studies

Davies, J, nd *Coal mines in Rossendale*, unpubl bound volume, typescript, c1980

John Davies collection. Collection amassed by retired miner (deceased c1996) in 1970s-1980s. Includes photographs, original mine plans, notes, etc., including some of mines in the study area. 4 boxes, uncatalogued.

Rochdale Local Studies Library

Note: Archive material curated by Rochdale Local Studies Library is not stored in the library. Prior request of material, giving at least 1 week's notice is required. The following list is not exhaustive.

1/1/BYR/1 Manor of Rochdale, Byron family: documents 16-19th centuries

DEA Dearden family, Lords of the manor of Rochdale, 1823 onwards

DEA/2/Box 1 Correspondence and typescript transcripts, re. sale of manor by Lord Byron to James Dearden, 1822-3

Chetham's Library, Manchester

Mun C6.36 Rev F R Raines Collection of Lancashire MSS, Rochdale material in vols 1-9, 14-15, 31, 34

APPENDIX 1
PROJECT DESIGN

APRIL 1998

Lancaster
University
Archaeological
Unit

WIND FARM SITES
HOGSHEAD nr WHITWORTH
and GREAT HILL nr CALDERBROOK

LANCASHIRE and GREATER MANCHESTER

ARCHAEOLOGICAL ASSESSMENT

Proposals

The following project design is offered in response to a request from Renewable Energy Systems Ltd., for an archaeological assessment of two proposed wind farm sites near Whitworth, Lancashire and Calderbrook, Greater Manchester.

1. INTRODUCTION

- 1.1 The construction of wind farms at Hogshead and near Whitworth, Lancashire and Great Hill, Calderbrook, Greater Manchester is proposed and LUAU have been requested by Renewable Energy Systems Ltd (RES) to submit a project proposal for an archaeological assessment of the two sites as part of an environmental impact assessment.
- 1.2 The Hogshead site has a documented archaeological potential and there are fifteen sites in and around it, which are for the most part mine shafts or associated mining remains. They are concentrated at either end of the study area, particularly on Tooter Hill, and are symptomatic of the intensive mining activity that occurred in this part of Eastern Lancashire during the nineteenth century. The Great Hill site has similarly been subject to nineteenth century extraction.
- 1.3 The Lancaster University Archaeological Unit has considerable experience of the evaluation and excavation of sites of all periods, having undertaken a great number of small and large scale projects during the past 18 years. Evaluations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. LUAU has the professional expertise and resource to undertake the project detailed below to a high level of quality and efficiency. LUAU and all its members of staff operate subject to the Institute of Field Archaeologists (IFA) Code of Conduct.

2. OBJECTIVES

- 2.1 The following programme has been designed in accordance with a request from Renewable Energy Systems Ltd to provide an accurate archaeological assessment of the designated area. The principal purpose of the assessment is to collate existing information about the archaeology of the site, to determine the significance of the identified archaeological resource, to assess the impact of the proposed development upon the identified archaeological resource and to provide recommendations for any further archaeological investigation. The required stages to achieve these ends are as follows:
- 2.2 **Desk Top Survey:** to accrue an organised body of data to inform the identification survey.
- 2.3 **Identification Survey:** to record the character of the extant earthworks within the two study areas and provide an assessment of the archaeological significance of any earthwork remains.
- 2.4 **Assessment Report:** a written assessment report will be generated for each of the two sites. These will assess the significance of the data generated by this programme within a local and regional context. They will advise on the requirements for further evaluation or recording measures as necessary.

3. METHODS STATEMENT

- 3.1 The following work programme is submitted in line with the stages and objectives of the archaeological work summarised above.
- 3.2 **DESK TOP SURVEY**
- 3.2.1 The following will be undertaken as appropriate, depending on the availability of source material. The level of such work will be dictated by the time scale of the project.
- 3.2.2 **Documentary and cartographic material:** this work will rapidly address the full range of potential sources of information. It will include an appraisal of the Lancashire and Greater Manchester Sites and Monuments Records, as well as appropriate sections of County histories, early maps, and such primary documentation (tithe and estate plans etc.) as may be reasonably available. Particular attention will be paid to field and place names recorded on early cartographic sources as these often provide important evidence of archaeological activity. Any photographic material lodged in either the County Sites and Monuments Records or the County Record Offices will also be studied. Published documentary sources will also be examined and assessed. This work will involve visits to the County Record Offices in Preston and Manchester; it will consult the records of the Littleborough Historical Society and potentially also the Rochdale Libraries, Local Studies Department.
- 3.2.3 **Aerial photography:** a survey of the extant air photographic cover will be undertaken. This may indicate the range and survival of archaeological and structural features in the designated area, and if

appropriate coverage is available, allow an assessment of the rate and progress of erosion of archaeological features. It will also facilitate the rapid recognition and plotting of archaeological features including those no longer visible at ground level. Identified features will be plotted at 1:10,000. Aerial photographic work may entail liaison with the Royal Commission on the Historical Monuments (England), although, within the time scale available, it is unlikely that prints will be forthcoming from this body for inclusion in this report.

- 3.2.4 **Physical environment:** a rapid desk-based compilation of geological (both solid and drift), pedological, topographical and palaeoenvironmental information will be undertaken. This will not only set the archaeological features in context but also serves to provide predictive data, that will increase the efficiency of the field inspection.

3.3 FIELD INSPECTION

- 3.3.1 **Access:** liaison for basic site access will be undertaken through Renewable Energy Systems Ltd.

3.3.2 It is proposed to undertake a level 1 survey of the two study areas; the Hogshead site covers an extent of 2.2sq km and the Great Hill site extends over 1 sqkm. This is a rapid survey undertaken alongside a desk top study as part of a site assessment. It is an initial site inspection intended to inform the environmental impact assessment which will consider fully the archaeological implications of a development; it also serves as the basis for undertaking and planning further archaeological work on the site. It represents the minimum standard of record and is appropriate to exploratory survey aimed at the discovery of previously unrecorded sites. Its aim is to record the existence, location and extent of any such site. The emphasis for the recording is on the written description which will record type and period and would not normally exceed c50 words. The extent of a site is defined for sites or features greater than 50m in size and smaller sites are shown with a cross.

3.3.3 The reconnaissance will be undertaken in a systematic fashion, walking on approximately 30m wide transects, within the extent of the defined study area. It is proposed to use Global Positioning System (GPS) techniques to locate and record the features. GPS instrumentation uses electronic distance measurement along radio frequencies to satellites to enable a positional fix in latitude and longitude which can be converted mathematically to Ordnance Survey National Grid. The use of GPS techniques has proved to be an essential and extremely cost effective means of locating monuments, and can achieve accuracies of better than +/- 1m.

3.3.4 A photographic record will be undertaken simultaneously. An early surface inspection such as this is highly recommended, as such work can frequently double the amount of archaeological information for an area. This fieldwork will result in the production of plans at a scale of 1: 2500 or any other appropriate scale required, recording the location of each of the sites listed in the gazetteer. All archaeological information collected in the course of field inspection will be recorded in standardised form, and will include accurate national grid references. This will form the basis of a gazetteer, to be submitted as part of the report.

3.3.5 LUAU provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997) and risk assessments are now being implemented for all projects.

3.4 ASSESSMENT REPORT

3.4.1 **Archive:** the results of Stages 3.2-3.3 will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects, 2nd edition, 1991*). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include summary processing and analysis of any features and finds recovered during fieldwork. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.

3.4.2 This archive can be provided in the English Heritage Central Archaeology Service format, both as a printed document and on computer disks as ASCII files (as appropriate), and a synthesis (in the form of the index to the archive and the report) will be deposited with the Lancashire or Greater Manchester Sites and Monuments Record, as appropriate. A copy of the archive will also be available for

deposition in the National Archaeological Record in London. LUAU practice is to deposit the original record archive of projects (paper, magnetic, and plastic media) with the appropriate County Record Office, and a full copy of the record archive, should any material be recovered, with the material archive (artefacts, ecofacts, and samples, at this stage from surface collections) with an appropriate museum.

- 3.4.3 **Collation of data:** the data generated by 3.2 and 3.3 (above) will be collated and analysed in order to provide an assessment of the nature and significance of the known surface and subsurface remains within the designated area. It will also serve as a guide to the archaeological potential of the area to be investigated, and the basis for the formulation of any detailed field programme and associated sampling strategy, should these be required in the future.
- 3.4.4 **Assessment Report:** An independent report will be generated for each of the two proposed wind farm sites. One bound and one unbound copy of each report will be submitted to the Client, and further copies submitted to the Lancashire and Greater Manchester Sites and Monuments Record Offices. The reports will include a copy of this project design, and indications of any agreed departure from that design. They will present, summarise, and interpret the results of the programme detailed above and will include a full index of archaeological features identified in the course of the project, together with appropriate illustrations, including maps and gazetteers of known or suspected sites identified within or immediately adjacent to the study area. They will also include a complete bibliography of sources from which the data has been derived, and a list of further sources identified during the programme of work, but not examined in detail. The reports will also include a complete bibliography of sources from which data has been derived, and a list of further sources identified during the programme of work, but not examined in detail.
- 3.4.5 These reports will identify areas of defined archaeology, an assessment and statement of the actual and potential archaeological significance of any features within the broader context of regional and national archaeological priorities will be made. Illustrative material will include a location map, which can be tailored to the specific requests of the client (eg particular scales etc.), subject to discussion. The report will be in the same basic format as this project design; a copy of the report can be provided on 3.5" disk (IBM compatible format).
- 3.4.6 **Proposals:** the reports will make a clear statement of the likely archaeological implications of the intended development. They will also make recommendations for any further evaluation of the identified archaeological potential deemed necessary or desirable for individual sites. They will seek to achieve, as a first option, the preservation *in situ* of all significant archaeological features, and possible strategies for the mitigation of the development, including design modifications, will be considered. Where conservation is neither possible, nor practical, it may be appropriate to recommend a further stage of more intensive archaeological work in order to mitigate the effects of development.
- 3.4.7 **Confidentiality:** the assessment reports are designed as a document for the specific use of the client, for the particular purpose as defined in the project brief and this project design, and should be treated as such; they are not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

3.5 PROJECT MONITORING

- 3.5.1 LUAU will liaise with the Greater Manchester and Lancashire County Archaeologists prior to implementing the archaeological works, but there is no allowance made in the costings (defined below) for pre-works meetings with the county archaeologists.

4. WORK TIMETABLE

The phases of work will comprise:

4.1 Desk Top Study

A two day period is required to collate all the available data.

- 4.2 **Field Inspection**
A three day period is required for the identification survey.
- 4.3 **Prepare Assessment Report**
A three day period would be required to complete this element.
- 4.4 LUAU can execute projects at very short notice once an agreement has been signed with the client.
5. **OUTLINE RESOURCES**
The following resource base will be necessary to achieve the proposals detailed above.
- 5.1 **Desk Top Study**
4 man-days External Consultant
- 5.2 **Field Survey**
3 man-days Project Supervisor
3 man-days Project Assistant
- 5.3 **Assessment Report**
3 man-days Project Supervisor
1.5 man days Illustrator
- 5.4 The project will be under the management of **Jamie Quartermaine, BA, Surv Dip, MIFA** (Unit Project Manager) to whom all correspondence should be addressed. All Unit staff are experienced, qualified archaeologists, each with several years professional expertise.

APPENDIX 2

SITE GAZETTEER

Site number G 1
Type Finds/Stone: flint
Site name Old Charles Hill
NGR SD 9202 1906
SMR 294.1.0
Period Prehistoric/Mesolithic
Description
 Four blades or flakes, a microlith, and a graver (Wymer 1977, 166).
Assessment
 It is within the boundary of the development site.

Site number G 2
Type Finds/Stone: flint
Site name Shore Moor, Great Hill
NGR SD 930 195
SMR 2306.1.0
Period Prehistoric/Mesolithic
Description
 One micro-blade, 185 unretouched flakes and blades, and three microliths, all of black chert, found by the Littleborough Historical and Archaeological Society.
Assessment
 It is on the boundary of the development site.

Site number G 3
Type Finds/Stone: flint
Site name Shore Moor, Great Hill
NGR SD 925 193 (centred)
SMR 2306.1.1
Period Prehistoric/Mesolithic
Height 390m
Description
 Two hundred and thirty one unretouched blades and flakes, and 10 microliths, all of flint, found along the 390m contour between SD 925193 and 929193, by the Littleborough Historical and Archaeological Society.
Assessment
 It is within the boundary of the development site.

Site number G 4
Type Finds/Stone: flint
Site name Shore Moor, Great Hill
NGR SD 929 195
SMR 2306.1.2
Period Prehistoric/Mesolithic
Height 400m
Description
 Fifteen unretouched blades and flakes, one graver, five microliths, and seven other flints found by the Littleborough Historical and Archaeological Society.
Assessment
 It is on the boundary of the development site.

Site number G 5
Type Finds/Stone: flint

Site name Stubley Cross Hill
NGR SD 9247 1914
SMR 2468.1.0
Period Prehistoric/Mesolithic
Height 390m

Description

Flint implement found by the Littleborough Historical and Archaeological Society (Wymer 1977, 166).

Assessment

It is within the boundary of the development site.

Site number G 6
Type Finds/Stone: flint
Site name Old Charles Hill, NE of Turn Slack Dam, Crook Moor
NGR SD 926 191 [926 192 on MR]
SMR GMSMR 2683.1.0; NMR UId 46012
Period Prehistoric/Late Mesolithic
Height 370m

Description

One chert microlith (an unbroken triangle: narrow blade industry), and four chert waste flakes, found by the Littleborough Historical and Archaeological Society.

Assessment

It is within the boundary of the development site.

Site number G 7
Type Finds/Stone: flint
Site name Stubley Cross Hill, east of Crook Hill
NGR SD 924 194
SMR 2694.1.0
Period Prehistoric/Late Mesolithic
Height 390m

Description

Two microliths: an unbroken triangle, and a triangular, but difficult-to-classify, item; also five geometrical microliths, and five flint waste flakes, were found by the Littleborough Historical and Archaeological Society.

Assessment

It is within the boundary of the development site.

Site number G 8
Type Finds/Stone: flint
Site name Great Hill, south of Shore Moor
NGR SD 929 195
SMR 2698.1.0
Period Prehistoric/Mesolithic
Height 390m

Description

Finds from surface collection by the Littleborough Historical and Archaeological Society. This comprised three flint geometric microliths, one flint flake, three flint bladelets, five fragments of same, 10 flint waste flakes and four chert waste flakes.

Assessment

It is on the edge of the boundary of the development site.

Site number G 9
Type Finds/Stone: flint
Site name Crook Moor
NGR SD 921 193
SMR 2700.1.0

Period Prehistoric/Mesolithic

Height 400m

Description

Finds by the Littleborough Historical and Archaeological Society. These comprised one geometric microlith, two flints, two chert bladelet fragments, seven flints and one chert.

Assessment

It is within the boundary of the development site.

Site number G 10

Type Finds/Stone: flint

Site name Great Hill; West of Calderbrook Moor and Road

NGR SD 9290 1930

SMR 2710.1.0

Period Prehistoric/Mesolithic

Height 380m

Description

Finds by the Littleborough Historical and Archaeological Society, picked up from track around upper parts of Great Hill. These include a mixture (not specified) of chert microliths, flint microliths, flakes, and chert bladelets.

Assessment

It is within the boundary of the development site.

Site number G 11

Type Quarry

Site name Wall Nook Colliery

NGR SD 9156 1981

Period Post-medieval/nineteenth century

Source OS 1930 edition 1:2500 map

Description

A quarry shown on the OS 2nd edition map (1894) and the subsequent editions. A path is shown extending through the quarry. It is within the extent of the large Wall Nook Colliery complex.

Assessment

It is outside the study area.

Site number G 12

Type Finds/Stone: flint

Site name Great Hill, Shore Moor

NGR SD 929 195

SMR 2749.1.0

Period Prehistoric/Late Neolithic/Mesolithic

Height 390m

Description

One broken bladelet fragment of Late Neolithic/Mesolithic period. No further details given.

Assessment

It is on the edge of the boundary of the development site.

Site number G 13

Type Finds/Stone: flint

Site name Great Hill, Shore Moor

NGR SD 918 198

SMR 8830.1.0

Source Grayson 1985

Period Prehistoric/Mesolithic

Height 386m

Description

During an excavation here by the Littleborough Historical and Archaeological Society, over 180 unretouched flakes, two cores, twenty four microliths, and four retouched flakes found. It is thought to be later Mesolithic, c6500 BC, and was possibly a summer camp used by hunters (Grayson and Steeles 1985).

Assessment

It is within the boundary of the development site.

Site number G 14
Type Packhorse road
Site name the Long Causeway
NGR SD 9129 1931 to 9175 1995 lin
Source GMAU 1990, 40, no258
Period Medieval - Post-Medieval
Height c250-350m

Description

A medieval or post-medieval packhorse road 2m wide, grassed over.

Assessment

It forms the western boundary of the development site.

Site number G 15
Type Quarry
Site name Crook Moor
NGR SD 9160 1969
Source GMAU 1990, 40, no259
Period Post-Medieval

Description

A quarry, grassed over, which was recorded by GMAU from aerial photographic and field walking evidence.

Assessment

It is just within the boundary of the development site.

Site number G 16
Type Quarry
Site name Crook Moor/Clay Potts Hill
NGR SD 9200 1902
Source GMAU 1990, 41, no291/Identification Survey
Period Post-Medieval/Pre-1930

Description

Circular earthwork shown on OS 1930 map, but not shown on the OS 1893 map. It survives as a grassed-over sub-circular quarry depression, with no exposed stone faces. Despite searching it was not identified by the identification survey.

Assessment

It is within the boundary of the development site.

Site number G 17
Type Ford
Site name Turn Slack Hill
NGR SD 9229 1910
Source OS 1st edition 6" map (1851)
Period Post-Medieval/pre-1851

Description

A ford shown on the OS 1851 map, but not on later editions.

Assessment

It is within the boundary of the development site.

Site number G 18

Type Boundary stone
Site name Turn Slack Hill/Old Charles Hill
NGR SD 9258 1903
Source OS 1st edition 6" map (1851)/OS 1:2500 1930 map
Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851, marking Wuerdle and Wardle (to west) / Blatchinworth with Calderbrook (to east) boundary. It is shown on the 1930 map, but not on the current edition.

Assessment

It is just outside the southern boundary of the development site.

Site number **G 19**
Type Boundary stone
Site name Stubble Cross Hill
NGR SD 9262 1916
Source OS 1st edition 6" map (1851)/ OS 1:2500 1930 map
Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851 map, marking Wuerdle and Wardle (to west) / Blatchinworth with Calderbrook (to east) boundary. It is shown on the 1930 map, but not on the current edition.

Assessment

It is within the boundary of the development site.

Site number **G 20**
Type Boundary stone
Site name Stubble Cross Hill
NGR SD 9258 1930
Source OS 1st edition 6" map (1851)
Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851 map, marking Wuerdle and Wardle (to west) / Blatchinworth with Calderbrook (to east) boundary. It is not shown on the 1930 or current edition maps.

Assessment

It is within the boundary of the development site.

Site number **G 21**
Type Boundary stone
Site name Stubble Cross Hill
NGR SD 9260 1903
Source OS 1st edition 6" map (1851)/ OS 1:2500 1930 map
Period Post-Medieval/Pre-1851

Description

Boundary stone shown on the OS 1851 map. It is c20m east of **Site G 20**, marking Wuerdle and Wardle (to west) / Blatchinworth with Calderbrook (to east) boundary. It is shown on the 1930 map, but not on the current edition.

Assessment

It is within the boundary of the development site.

Site number **G 22**
Type Boundary stone
Site name Stubble Cross Hill
NGR SD 9257 1936
Source OS 1st edition 6" map (1851)
Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851 map, marking Wuerdle and Wardle (to west) / Blatchinworth with Calderbrook (to east) boundary. It is not shown on the 1930 map or on current edition.

Assessment

It is within the boundary of the development site.

Site number G 23
Type Boundary stone
Site name Crook Hill/Stubley Cross Hill
NGR SD 9229 1945
Source OS 1st edition 6" map (1851)/Identification Survey
Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851 and current edition maps, marking Wuerdle and Wardle (to south) / Todmorden and Walsden (to north) boundary, now the county boundary, and boundary of the development site. The boundary stone was recorded by the identification survey.

Assessment

It is within the boundary of the development site.

Site number G 24
Type Boundary stone
Site name Stubley Cross Hill
NGR SD 9243 1944
Source OS 1st edition 6" map (1851)
Period Post-Medieval/Pre-1851/Identification Survey

Description

A boundary stone shown on the OS 1851, and current edition maps, marking Wuerdle and Wardle (to south) / Todmorden and Walsden (to north) boundary, now the county boundary, and boundary of the development site. The stone is still in place.

Assessment

It is along the edge of the northern boundary of the development site.

Site number G 25
Type Boundary stone
Site name Stubley Cross Hill
NGR SD 9243 1944
Source OS 1st edition 6" map (1851)/Identification Survey
Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851, and current edition maps, marking Wuerdle and Wardle (to west), Blatchinworth and Calderbrook (to east), and Todmorden and Walsden (to north) boundary. It is now on the county boundary, the boundary of the development site, and was identified during the field survey.

Assessment

It is along the northern edge of the boundary of the development site.

Site number G 26
Type Boundary stone
Site name Blue Pot Spring
NGR SD 9280 1916
Source OS 1st edition 6" map (1851)
Period Post-Medieval/Pre-1851

Description

A spring shown on the OS 1851 map, but not on the current edition.

Assessment

It lies on the boundary of the development site.

Site number	G 27
Type	Structure: shelter?
Site name	Great Hill
NGR	SD 9306 1936
Source	OS 1st edition 6" map (1851)/ OS 1:2500 1930 map/Identification Survey
Period	Post-Medieval/Pre-1851

Description

A small square enclosure, c10m square, which has a structure within it. It is shown on the OS 1st, 2nd and 3rd edition maps (1851, 1894 and 1930) but not on the current edition. It survives as two buildings, which were aligned north/south. The southern building is single celled, rectangular in plan, 3m by 5m, with walls standing to 0.65m. It is constructed from haphazardly arranged small to medium sub-angular stones with an apparent lime-based bonding material. An entrance was identified on the eastern wall although there was a large amount of stone rubble obscuring much of the detail. The second, northern, building was of similar construction and similar single-celled style, with dimensions of 2m by 2m. It would appear, from its style of construction, to be of similar date to the southern building. There was no entrance identified to this structure although there was a large quantity of rubble obscuring the detail.

Assessment

It is within the boundary of the development site.

Site number	G 28
Type	Structure: shelter?
Site name	Great Hill
NGR	SD 9306 1939
Source	OS 1st edition 6" map (1851)/Identification Survey
Period	Post-Medieval/Pre-1851

Description

A small square enclosure c6m square, lying c35m north of **Site G 27**. It is shown on the OS 1851, but not on the OS 1894 map or current edition.

Assessment

It is within the boundary of the development site.

Site number	G 29
Type	Tarn?
Site name	Great Hill/Allenden Hill
NGR	SD 9322 1935
Source	OS 1st edition 6" map (1851)/ OS 1:2500 1930 map
Period	?Natural

Description

An oval, possible tarn (c30 x 15m). It is shown on the 1st edition OS 1851 map and also the OS 1930 map, but not on the current edition.

Assessment

It is within the boundary of the development site.

Site number	G 30
Type	Quarry
Site name	Allenden Hill
NGR	SD 9348 1921
Source	OS 1st edition 6" map (1851) / OS 1:2500 1930 map/ Identification survey
Period	Post-Medieval/Pre-1851

Description

A quarry (c30 x 20m) shown on the OS 1851, and as 'old' on the OS 1894 map, as an earthwork on the OS 1930 map but is not on the current edition. It is a large irregular, oval depression and up to 1m deep.

Assessment

It is just within the development site boundary.

Site number G 31

Type Boundary stone

Site name Old Charles Hill

NGR SD 9251 1889

Source OS 1st edition 6" map (1851)/ OS 1:2500 1930 map

Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851 and OS 1930, and current edition maps, marking Wuerdle and Wardle/Blatchinworth and Calderbrook boundary.

Assessment

It lies c80m outside the development site.

Site number G 32

Type Boundary stone

Site name Old Charles Hill

NGR SD 9244 1879

Source OS 1st edition 6" map (1851)/ OS 1:2500 1930 map

Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851, OS 1930, and current edition maps, marking Wuerdle and Wardle/Blatchinworth and Calderbrook boundary.

Assessment

It lies c100m outside the development site.

Site number G 33

Type Boundary stone

Site name Old Charles Hill

NGR SD 9253 1872

Source OS 1st edition 6" map (1851)

Period Post-Medieval/Pre-1851

Description

A boundary stone shown on the OS 1851, and current edition maps, marking Wuerdle and Wardle/Blatchinworth and Calderbrook boundary.

Assessment

It lies c200m outside the development site.

Site number G 34

Type Documentary, aerial photography/Shaft Hollow

Site name Crook Hill

NGR SD 9160 1965

Source GMAU 1990, 40, no260

Period Post-Medieval

Description

A shaft hollow recorded by GMAU from fieldwalking and aerial photographic evidence.

Assessment

It lies on the development site boundary, but the extent of the underground workings is not known.

Site number G 35

Type Colliery shaft

Site name Crook Hill

NGR SD 9159 1963
Source OS 1st edition 6" map (1851); GMAU 1990, 40, no 261
Period Post-Medieval

Description

A colliery pit shown on the OS 1851 map and also identified by GMAU survey.

Assessment

It lies c20m outside the development site boundary

Site number G 36
Type Colliery
Site name Crook Hill/Wall Nook colliery (part)
NGR SD 9152 1950
SMR 8838.1.0
Source GMAU 1990, 40, no.262
Period Post-Medieval/c1784 to 1928

Description

A colliery spoil heap shown on the OS 1930 map, but not on the earlier editions (GMAU). Wall Nook colliery was abandoned in 1928, according to the Coal Authority, but collieries are recorded on this site from c1784, when owned by Simon Dearden of Handle Hall.

Assessment

It lies c100m outside the development site boundary, but the extent of underground workings is not known.

Site number G 37
Type Colliery shaft
Site name Crook Hill
NGR SD 9158 1951
Source OS 1st edition 6" map (1851)
Period Post-Medieval

Description

A colliery pit shown on the OS 1851 map. Wall Nook colliery was abandoned in 1928, according to the Coal Authority.

Assessment

It lies c60m outside the development site boundary, but the extent of the underground workings is not known.

Site number G 38
Type Shaft hollow
Site name Crook Hill
NGR SD 91635 19456
Source GMAU 1990, 41, no277/Identification survey
Period Post-Medieval

Description

A shaft hollow initially recorded by GMAU from fieldwalking and aerial photographic evidence. The present identification survey identified a deep shaft (2.2m deep) with a spoil mound extending to the south-west. The site is 16m x 10m in size. It is interpreted as a mine shaft.

Assessment

It lies c20m outside the development site boundary, but the extent of the underground workings is not known.

Site number G 39
Type Mine Shaft
Site name Crook Hill
NGR SD 9169 1951
Source GMAU 1990, 41, no278/Identification survey
Period Post-Medieval

Description

A shaft, initially identified by GMAU from fieldwalking and aerial photographic evidence. The present identification survey identified a relatively shallow shaft with a spoil mound extending to the south-west. The site is 12m x 18m in size. It is interpreted as a mine shaft.

Assessment

It is within the development site boundary.

Site number G 40
Type Quarry
Site name Crook Hill
NGR SD
Source GMAU 1990, 41, no279/Identification survey
Period Post-Medieval

Description

A water-filled quarry initially identified by GMAU from fieldwalking and aerial photographic evidence. It is an elongated hollow, in part fed by a leat or stream from the north-west. It feeds into the large elongated hollow **G41**, which has some characteristics of an adit, but is more likely to be an elongated quarry. A shaft (**G 42**) is located immediately to the east of the quarry/adit feature.

Assessment

It lies on the development site boundary.

Site number G 41
Type Quarry
Site name Crook Hill
NGR SD 9167 1943 - 91711939
Source GMAU 1990, 40, no.280/Identification survey
Period Post-Medieval

Description

A grassed-over putative quarry initially identified by GMAU from fieldwalking and aerial photographic evidence. It is an elongated hollow set into the slope; it displays some similarities with an adit, but cannot be confirmed as such.

Assessment

It lies on the development site boundary.

Site number G 42
Type Shaft Hollow
Site name Crook Hill
NGR SD 9172 1940
Source GMAU 1990, 41, no.281/Identification survey
Period Post-Medieval

Description

A shaft hollow recorded by GMAU from fieldwalking and aerial photographic evidence. It has a shaft of 10m diameter, but no obvious mound.

Assessment

It is within the boundary of the development site.

Site number G 43
Type Shaft Hollow
Site name Crook Hill
NGR SD 9184 1929
Source GMAU 1990, 41, no.282/Identification survey
Period Post-Medieval

Description

A shaft hollow initially identified by GMAU from fieldwalking and aerial photographic evidence. A large shaft hollow, 10m x 8m, with a 1.5m high mound of spoil immediately to the south-east.

Assessment

It is within the boundary of the development site.

Site number G 44
Type Shaft Hollow
Site name Crook Hill
NGR SD 9192 1931
Source GMAU 1990, 41, no.283/Identification survey
Period Post-Medieval

Description

A shaft hollow, initially identified by GMAU from fieldwalking and aerial photographic evidence. The shaft has a large flat base (12m x 9m). There is a very prominent mound (2.2m high) extending to the south of the shaft. The size overall is 21m x 12m.

Assessment

It is within the boundary of the development site.

Site number G 45
Type Shaft Hollow
Site name Crook Hill
NGR SD 9199 1917
Source Identification Survey
Period Post-Medieval

Description

A low, slightly irregular mound with a slight hollow to the north. It would appear to have been a spoil mound from one of the nearby shafts.

Assessment

It is within the boundary of the development site.

Site number G 46
Type Shaft Hollow
Site name Crook Hill
NGR SD 9203 1925
Source GMAU 1990, 41, no.285 / Identification Survey
Period Post-Medieval

Description

A shaft, initially identified by GMAU from fieldwalking and aerial photographic evidence. It has an entirely earthfast hollow c8m in diameter with a substantial spoil mound to its south. Overall the site is 18m x 14m in size.

Assessment

It is within the boundary of the development site.

Site number G 47
Type Quarry ? / Shaft?
Site name Crook Hill
NGR SD 9205 1922
Source GMAU 1990, 41, no.286/ Identification Survey
Period Post-Medieval

Description

A site initially identified by GMAU from fieldwalking and aerial photographic evidence. It comprises a large spoil mound (1.5m high) with two irregular hollows, each c 12m across, and each with flat bottoms. Although the irregularities of the hollows may be an indication that this was a quarry, the context and quantity of spoil, which is greater in volume than that of the hollows, would suggest that this was a shaft complex.

Assessment

It is within the boundary of the development site.

Site number G 48

Type Mine Shaft
Site name Crook Hill
NGR SD 92063 19145
Source Identification Survey
Period Post-Medieval

Description

A shaft with a shallow hollow (0.8m deep), 8m in diameter. The mound is relatively low lying and extends to the south of the shaft. Overall the site is 20m x 14m in size.

Assessment

It is within the boundary of the development site.

Site number G 49
Type Mine Shaft
Site name Crook Hill
NGR SD 92094 19182
Source GMAU 1990, 41, no.288/ Identification Survey
Period Post-Medieval

Description

A shaft, initially identified by GMAU from fieldwalking and aerial photographic evidence. It comprises a large broad mound and a shallow shaft which is 7m in diameter and 0.8m deep. The mound is to the south-west of the shaft and overall the site is 21m x 15m in size.

Assessment

It is within the boundary of the development site.

Site number G 50
Type Mine Shaft
Site name Crook Hill
NGR SD 9209 1906
Source GMAU 1990, 41, no.289/Identification Survey
Period Post-Medieval

Description

A shaft, initially identified by GMAU from fieldwalking and aerial photographic evidence. It has a prominent spoil mound (1.2m high), and a shaft to the north of the mound. The shaft is 7m in diameter and 0.75m deep. Overall the site is 18m x 13m in size.

Assessment

It is within the boundary of the development site.

Site number G 51
Type Mine Shaft
Site name Crook Hill
NGR SD 92050 19045
Source GMAU 1990, 41, no.290/Identification Survey
Period Post-Medieval

Description

A shaft, initially identified by GMAU from fieldwalking and aerial photographic evidence. A large and prominent spoil mound (2.5m high) with a 1.5m deep shaft located to the north-east of the mound. Overall the site is 19m x 12m in size.

Assessment

It is within the boundary of the development site.

Site number G 52
Type Quarry
Site name Crook Hill
NGR SD 9198 1905
Source GMAU 1990, 41, no.292 / Identification Survey
Period Post-Medieval

Description

A quarry, grassed over, and initially identified by GMAU from fieldwalking and aerial photographic evidence. It is quarried into the slope and has prominent banks extending across the front of the hollow. There is a narrow aperture through the front. The hollow is mire-filled and is flat bottomed. The quarry hollow has an irregular oval shape.

Assessment

It is within the boundary of the development site.

Site number G 53
Type Mine Shaft
Site name Crook Hill
NGR SD 91995 19105
Source GMAU 1990, 41, no.293 / Identification Survey
Period Post-Medieval

Description

A shaft, initially identified by GMAU from fieldwalking and aerial photographic evidence. It has a deep shaft (2.5m deep), which is 8m in diameter. The mound is up to 2m high, but is spread out. The size overall is 20m x 14m.

Assessment

It is within the boundary of the development site.

Site number G 54
Type Quarry
Site name Crook Hill
NGR SD 9195 1914
Source GMAU 1990, 41, no.294
Period Post-Medieval

Description

A quarry, grassed over, recorded by GMAU from fieldwalking and aerial photographic evidence. The LUAU survey did not locate a site in this position.

Assessment

It is within the boundary of the development site.

Site number G 55
Type Mine Shaft
Site name Crook Hill
NGR SD 91954 19172
Source GMAU 1990, 41, no.295/Identification Survey
Period Post-Medieval

Description

A shaft initially identified by GMAU from fieldwalking and aerial photographic evidence. It comprises a deep shaft (2m deep) and the mound is spread on either side of a broad access corridor which is 4m wide. The mounds are 1.2m high; the site overall is 25m x 10m.

Assessment

It is within the boundary of the development site.

Site number G 56
Type Quarry and spoil
Site name Crook Hill
NGR SD 9190 1917
Source GMAU 1990, 41, no.295 / Identification Survey
Period Post-Medieval

Description

A quarry and spoil, grassed over, recorded by GMAU from fieldwalking and aerial photographic evidence. A flat bottomed quarry with a substantial spoil mound to the south. It has an irregular shape, but is not particularly prominent.

Assessment

It is within the boundary of the development site.

Site number G 57
Type Mine Shaft
Site name Crook Hill
NGR SD 91820 19260
Source GMAU 1990, 41, no.297 / Identification Survey
Period Post-Medieval

Description

A large shaft, initially identified by GMAU from fieldwalking and aerial photographic evidence. The shaft is 10m in diameter and has a substantial mound spread around the southern edge of the shaft. There is an access gap to the south. The site is 17m x 16m overall.

Assessment

It lies on the development site boundary

Site number G 58
Type Documentary, aerial photography/Mine Shaft
Site name Crook Hill
NGR SD 9189 1920
Source GMAU 1990, 41, no.298
Period Post-Medieval

Description

A large shaft, recorded by GMAU from fieldwalking and aerial photographic evidence. LUAU did not identify a site in this position.

Assessment

It is within the boundary of the development site.

Site number G 59
Type Finds/Stone: flint
Site name Noon Hill Clough
NGR SD 927 196
Source Grayson 1985
Period Prehistoric/Mesolithic

Description

Two Mesolithic blades or unretouched flakes of mottled grey flint found by the Littleborough Historical and Archaeological Society.

Assessment

The site lies just outside the development site boundary.

Site number G 60
Type Finds/Stone: flint
Site name Fox Stones Hill
NGR SD 929 190
SMR 2321.1.0
Source Grayson 1985
Period Prehistoric/Mesolithic
Height 345m, 1150 ft

Description

A scatter of seven blades and unretouched grey flint flakes, and one other item, found by the Littleborough Historical and Archaeological Society.

Assessment

The site lies just outside the development site boundary.

Site number G 61
Type Finds/Stone: flint
Site name Clay Potts Hill
NGR SD 920 188
SMR 2322.1.0
Period Prehistoric/Mesolithic
Height 360m

Description

Waste flakes and one flint found by the Littleborough Historical and Archaeological Society.

Assessment

The site lies just outside development site boundary.

Site number G 62
Type Finds/Stone: flint
Site name Turn Slack Hill/Old Charles Hill
NGR SD 925 189
Period Prehistoric/Mesolithic
Height 360m

Description

One flint rough waste flake found by the Littleborough Historical and Archaeological Society.

Assessment

The site lies just outside the development site boundary

Site number G 63
Type Finds/Stone: flint
Site name Fox Stones Hill
NGR SD 929 189
SMR 5344.1.0
Period Prehistoric/Mesolithic
Height 350m

Description

Seven unretouched flakes, and one artefact (undescribed), all of grey flint, found by the Littleborough Historical and Archaeological Society.

Assessment

It lies outside the boundary of the development site.

Site number G 64
Type Building
Site name Forest Lodge
NGR SD 934 187
Source OS 1st edition 6" map (1851)/ OS 1:2500 1930 map / Identification Survey
Period Post-Medieval

Description

The remains of a substantive building shown on the OS edition map of 1930. It comprised six individual cells, square in plan, within a basic rectangular frame (18m by 14m) to which a revetment wall leads to the north-east. The central bay contains a rubble filled cellar accessed via a stone stair to the south. It is entirely constructed from haphazardly arranged small to medium sub-angular stone with an apparent lime based bond material around a series of three level platforms at differing heights. There is no evidence of any roofing material, suggesting that it was demolished systematically or possibly that it was roofed with organic material, whilst the presence of a cellar indicates that it is probably not of any great antiquity. A further level platform 10m by 6m extended to the west constructed via the building of a rectangular revetment wall. The building is a conventional farm of eighteenth or late nineteenth century design.

Assessment

The site is outside the study area but adjacent to the principal access route.

Site number G 65
Type Building
Site name Forest Lodge
NGR SD 934 187
Source OS 1st edition 6" map (1851)/ OS 1:2500 1930 map/ Identification Survey
Period Post-Medieval

Description

A small structure located 25m to the east of Forest Lodge farm. It measures 3m by 3m, and is square in plan. It is constructed in a similar style to the main building with walls standing to 0.85m in height. It is positioned at the base of an area of steeply sloping ground with the northern wall acting as a revetment to this slope.

Assessment

The site lies outside the development site boundary.

Site number G 66
Type Cairn
Site name Allenden Hill
NGR SD 934 192
Source OS 1:2500 1930 map/ Identification Survey
Period Modern

Description

A modern cairn on the summit of Allenden Hill and constructed from small to medium sub-angular stone. It is triangular in plan and would appear to be the product of the arrangement of stone into a pyramid shaped cairn during recent years. It is on the site of a triangulation cairn shown on the OS 1:2500 1930 map.

Assessment

The site is within the boundary of the development site.

Site number G 67
Type Documentary, Dam and Reservoir
Site name Turn Slack Dam
NGR SD 923 188
Source OS 1st edition 6" map (1851)/ OS 1:2500 1930 map
Period Post-Medieval/Pre 1851

Description

A reservoir and dam shown on the OS 1st edition map (1851) and also shown in place on the 1930 edition 1:2500 OS map. The dam is shown on the eastern side and a stream/leat supplied the Clough mining complex at the base of the hill.

Assessment

It is outside the study area.

Site number G 68
Type Coal Pit
Site name Wall Nook Colliery
NGR SD 9156 1974
Period Post-medieval/nineteenth century
Source OS 1st edition 6" map (1851)

Description

A coal pit shown on the OS 1st edition map (1851) but not the 1930 edition. It is within the extent of the large Wall Nook Colliery complex.

Assessment

It is outside the study area.

Site number G 69
Type Mine Shaft
Site name Crook Hill
NGR SD 91822 19418

Source Identification Survey

Period Post-Medieval

Description

A small shaft (5m diameter), which is relatively shallow. There is a mound to the south.

Assessment

The site is located within the boundary of the development site.

Site number G 70

Type Mine Shaft

Site name Crook Hill

NGR SD 91832 19406

Source Identification Survey

Period Post-Medieval

Description

A flat-based shallow shaft (8m diameter), with a mound to the south. The site is 21m x 15m overall.

Assessment

It is within the boundary of the development site.

Site number G 71

Type Mine Shaft

Site name Crook Hill

NGR SD 91925 19313

Source Identification Survey

Period Post-Medieval

Description

A large flat-bottomed shaft hollow (12m x 9m), with a prominent mound to the south, which 2.2m high. The site is 21m x 12m overall.

Assessment

It is within the boundary of the development site.

Site number G 72

Type Mine Shaft

Site name Crook Hill

NGR SD 91737 19473

Source Identification Survey

Period Post-Medieval

Description

A deep shaft (2m deep), and there is a broad mound to the south. The site is 20m x 16m overall.

Assessment

It is within the boundary of the development site.

Site number G 73

Type Shelter

Site name Crook Hill

NGR SD 92170 18983

Source Identification Survey

Period Post-Medieval

Description

A circular dry-stone structure which is 2.5m in diameter and has an entrance to the east. It is 2.5m in height and is in good condition. It was evidently built fairly recently. It has a plaque set into the external face: J L Jackson Wardle. It would appear to be a purpose-built shelter.

Assessment

It is within the boundary of the development site.

Site number G 74
Type Mining Remains
Site name Turn Slack Hill
NGR SD 92224 1907 - 9228 1889
Source Identification Survey
Period Post-Medieval

Description

A large area of spoil mounds and some ill-defined shafts, which are partly overlain by spoil. The coal waste is spread down the slopes of a large gully. The spoil is generally irregularly deposited in broad banks along the top of the stream gully.

Assessment

It is within the boundary of the development site.

Site number G 75
Type Spoil mound
Site name Crook Hill
NGR SD 92010 19169
Source Identification Survey
Period Post-Medieval

Description

A low, slightly irregular mound. It would appear to have been a spoil mound from one of the nearby shafts.

Assessment

It is within the boundary of the development site.

Site number G 76
Type Mine Shaft
Site name Crook Hill
NGR SD 92132 19135
Source Identification Survey
Period Post-Medieval

Description

A small shaft (7m diameter), which is up to 1m deep. There is a mound to the south, which is 1.2m high. The site is overall 15m x 10m.

Assessment

It is within the boundary of the development site.

Site number G 77
Type Structure?
Site name Stones Hill
NGR SD 93482 18978
Source Identification Survey
Period Post Medieval

Description

An open ended semi-circular feature, 3m across. It is open ended to the north-east and largely earthfast. It appears to have an imbricate structure of millstone grit blocks (c8 courses) at the terminal (to the south-east). It could represent the remains of a shepherds hut.

Assessment

It is within the boundary of the development site.

Site number G 78
Type Quarries
Site name Stones Hill
NGR SD 93584 18933
Source Identification Survey
Period Post-Medieval

Description

A series of at least four large (40m across) and smaller quarry hollows (5-10m across), along with causeways exiting south-east towards 'Pasture House'.

Assessment

It is within the boundary of the development site.

Site number G 79
Type Quarry
Site name Cuckoo Hill
NGR SD 93623 18763
Source Identification Survey
Period Post-Medieval

Description

An east-west linear quarry c 7m across which is on a eastern gradient extending towards **Site G80**.

Assessment

It is within the boundary of the development site.

Site number G 80
Type Working area
Site name Cuckoo Hill
NGR SD 93683 18753
Source Identification Survey
Period Post-Medieval

Description

Located between the two peaks at Cuckoo Hill, is a flat area c 30 in diameter which is cut into the western facing slope of the east peak, forming a 'crescent' platform to the south. It is located towards the eastern terminal of G79 and would appear to represent a beneficiation or separation area.

Assessment

It is within the boundary of the development site.

Site number G 81
Type Cuckoo Hill
Site name Quarries
NGR SD 93699 18753
Source Identification Survey
Period Post-Medieval

Description

A zone of quarries to the west and south of the eastern peak of Cuckoo Hill, comprising small scale spoil heaps.

Assessment

It is within the boundary of the development site.

Site number G 82
Type Building
Site name Cuckoo Hill
NGR SD 93598 18738
Source Identification Survey
Period Post-Medieval

Description

A twin roomed structure shown on the OS 1930 map, which cuts into the south-western slope of the eastern peak at Cuckoo Hill. The walls are well constructed double faced with a rubble core and are 0.5-0.6m thick. The walls enclose three sides, with bays 3.5m and 2.5m wide. There is no surviving evidence of a roof. Its original purpose was probably as storage associated with nearby agriculture or quarrying.

Assessment

It is within the boundary of the development site.

Site number G 83
Type Building
Site name Stones Hill
NGR SD 93478 18762
Source Identification Survey
Period Post-Medieval

Description

A two-cell building shown on the OS 1930 map, located on a south-east slope. It cuts into the hill standing to a height of 1.85m. It is of drystone construction, of coarsely laid millstone grit blocks, and is more coarse construction than building **G82**. The walls are c0.45m wide and enclose two rooms, the eastern one which is complete on four sides has a doorway with a 0.6m opening. The western room has had its east wall robbed out. Both rooms are similar in size (c2 x 2m).

Assessment

It is within the boundary of the development site.

Site number G 84
Type Wall
Site name Stones Hill
NGR SD 93492 18717
Source Identification Survey
Period Post-Medieval

Description

The south side of a four sided rectangular enclosure which encloses farm **G65**. This south side wall has been robbed out but is still visible for at least one course of stone. It is 0.45m wide.

Assessment

It is within the boundary of the development site.

Site number G 85
Type Enclosure
Site name Cuckoo Hill
NGR SD
Source Identification Survey
Period Post-medieval

Description

A small drystone walled enclosure abutting the drystone wall. It is of poor construction and is c 3m long (north/south) and 1.5m wide. Its purpose is unknown.

Assessment

It is within the boundary of the development site.

Site number G 86
Type Quarry
Site name Cuckoo Hill
NGR SD 93710 18679
Source Identification Survey
Period Post-Medieval

Description

An extensive quarry area with internal spoil heaps. It is roughly oriented east/west and is to the south of Cuckoo Hill.

Assessment

It is within the boundary of the development site.

Site number G 87
Type Quarry
Site name Long Hill
NGR SD 93910 18651

Source Identification Survey

Period Post-Medieval

Description

A large, deep stone quarry, with associated spoil mounds. It represents an extensive area of extraction.

Assessment

It is within the boundary of the development site.

Site number G 88

Type Quarry

Site name Long Hill

NGR SD 93998 18434

Source Identification Survey

Period Post-Medieval

Description

A large, deep stone quarry, with associated spoil mounds. It represents an extensive area of extraction.

Assessment:

It is within the boundary of the development site.

Site number G 89

Type Quarry

Site name Long Hill

NGR SD 94035 18378

Source Identification Survey

Period Post-Medieval

Description

A large, deep stone quarry, with associated spoil mounds. It represents an extensive area of extraction.

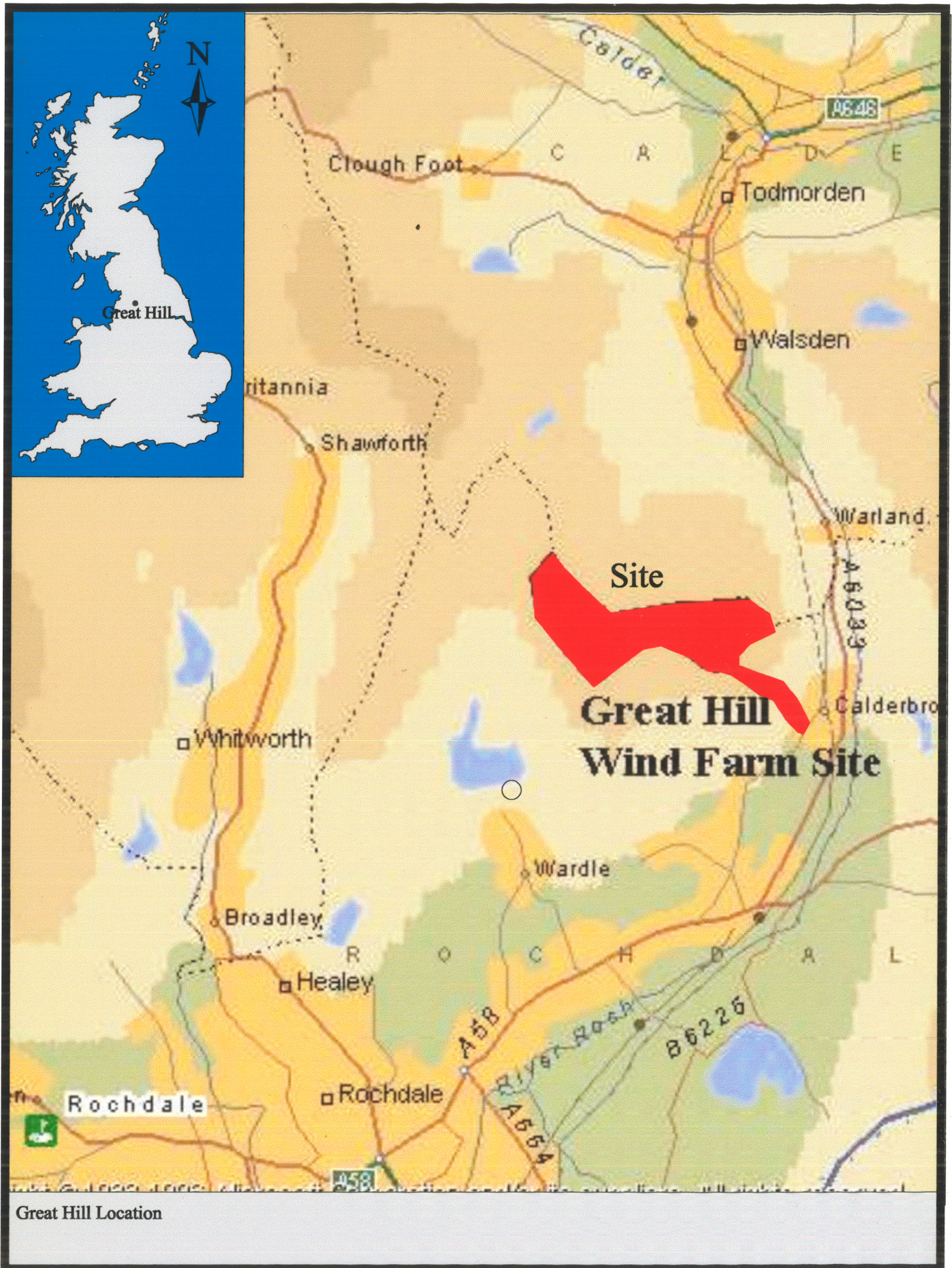
Assessment

It is within the boundary of the development site.

ILLUSTRATIONS

Fig 1 Great Hill wind farms site location plan

Fig 2 Great Hill overall site plan



Great Hill Location

Fig 1 Great Hill Site Location Map

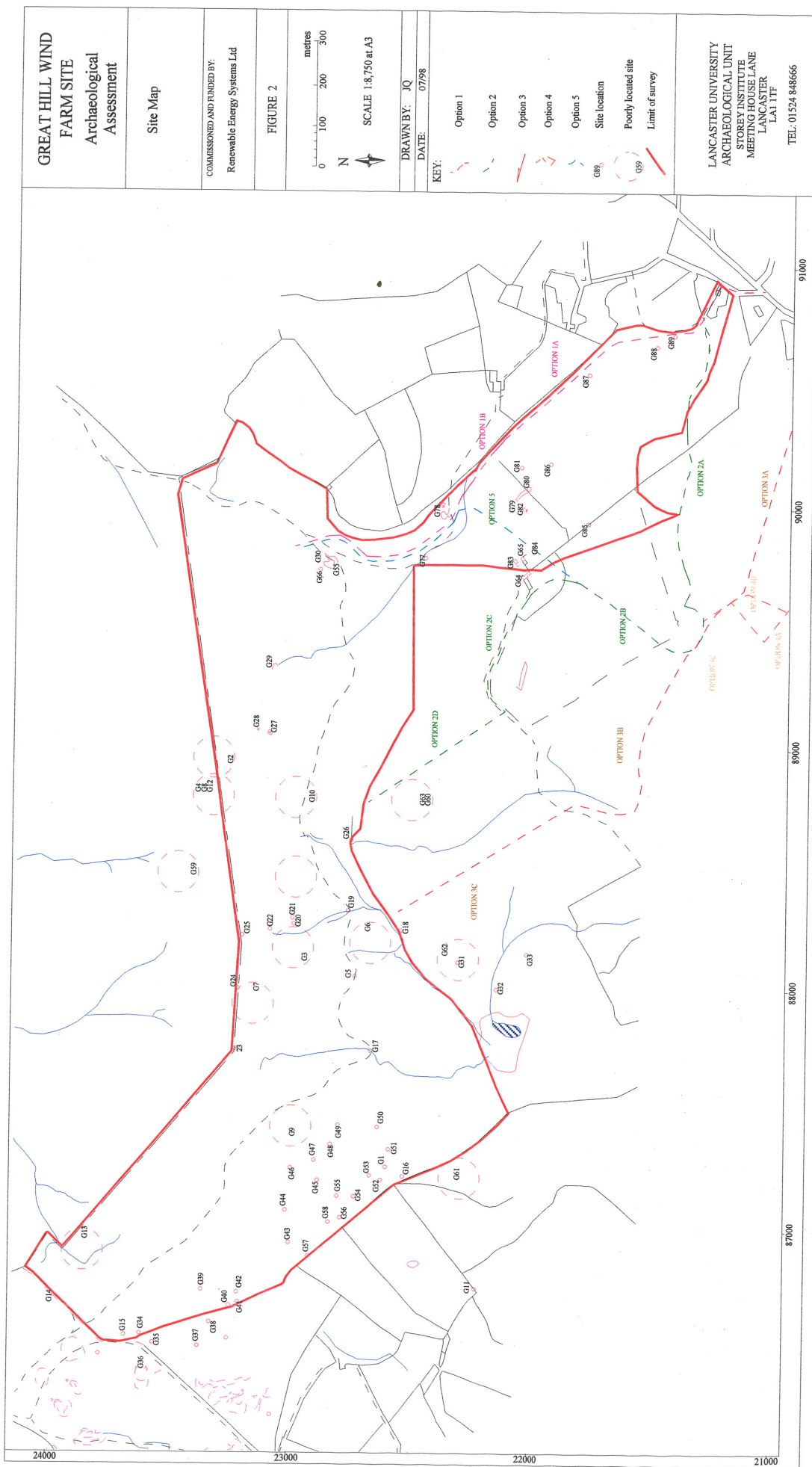


Fig 2 Hogshhead Overall Site Map